





C & D

CHEMIST AND DRUGGIST

Volume 190

SEPTEMBER 21, 1968

No. 4623

Evaluation of Drugs

AN INTERNATIONAL CONFERENCE

RESPONSIBILITY of the various partners involved in the evaluation of drugs is being discussed at a Council for International Organisations of Medical Sciences round-table conference on October 8.

Experts from Belgium, Canada, Czechoslovakia, France, Germany (Federal Republic), Israel, Italy, Norway, Sweden, Switzerland, the United Kingdom, United States and Russia will participate in the meeting, where three main topics are to be discussed: evaluation of drug safety and efficacy; dissemination of information on drugs; prevention of drug misuse. New forms of partnership between the academic medical sciences, the medical profession, the pharmaceutical industry and governments are considered necessary (i) to encourage the growth of research in new drugs; (ii) to ensure that safe and effective drugs will be available to all who need them; (iii) to minimise the dangers of modern drugs, and (iv) to prevent their misuse. It is hoped that the meeting will bring into proper perspective the responsibility incumbent on those engaged in research, production, control and prescribing. British participants are Professor A. G. MacGregor (department of therapeutics and pharmacology, University of Aberdeen) and Dr. G. E. Paget (Smith, Kline & French Laboratories, Ltd.).

Sunday Trading

MINISTER CRITICISES ACT

"A WELTER of rubbish" was how Lord Stonham (Minister of State, Home Office) described the present Sunday Trading Act when he addressed the annual conference of the Institute of Shops Act Administration on September 10. What exactly could and could not be sold on Sundays had for too long confused shopkeepers, the public and the Institute's members who had the difficult task of enforcing the law. The difficulties were particularly evident in the field of food, "and there were old friends like the razor blade—sale on a Sunday for corn cutting, legal; sale on Sunday for shaving, illegal." Lord Stonham said the new Sunday Trading Bill would seek to avoid the present anomalies. The Government was ready to make some progress on shops legislation if the industry were agreed on the changes

necessary. The Department of Employment and Productivity was considering amending legislation.

Agricultural Chemicals

MORE SAFE USE RECOMMENDATIONS

THE Ministry of Agriculture, Fisheries and Food has issued recommendations for the safe use in Great Britain of the following:—Quinazamid dry seed dressing; Novastat W. for veterinary use (Salsbury Laboratories, Ltd.); dazomet, a soil sterilant for home garden use; Nilzan, for veterinary use (Imperial Chemical Industries, Ltd., pharmaceutical division); dalapon, a herbicide; potassium iodide, defoliant; pentanochlor, a herbicide; pyrantil tartrate for veterinary use (Banminth, Pfizer, Ltd.). Provisional recommendations have been issued for parben-dazole (Helmatac, Smith & Kline French Laboratories, Ltd.). Earlier recommendations for chlorhexidine

gluconate for veterinary use (Teatcote, Imperial Chemical Industries, Ltd., pharmaceutical division); dichlorvos for veterinary use (Nuvan, CIBA Agrochemicals, Ltd.) and Tail-Guard (May and Baker, Ltd.) have all been replaced, and new recommendations issued for niclosamide (Mansonil, Baywood Chemicals, Ltd.). The use of methoxychlor, and methyl bromide in food storage practice have been the subject of recommendations as has the use of methoxychlor for home kitchen and larder use. Errata notices have been issued for the recommendation sheets already issued concerning agricultural and horticultural use of azinphos-methyl, dichlorprop, dinobuton, mercurous chloride, quinomethionate and tetramisole for veterinary use.

Intra-uterine Devices

REPORT OF A COMMITTEE

THIRTY-FIVE areas of basic, clinical and epidemiological research that need further investigation are enumerated in "Intra-uterine Devices: Physiological and Clinical Aspects," a report (No. 397) of a World Health Organisation scientific group (H.M. Stationery Office, price 4s.). The group, which met in December 1967, estimates that in recent years 6-8 million women throughout the world have used the devices for contraception, 2 million of them in India.



STATE OCCASION: On the occasion of the Lagos State anniversary celebrations recently, Mr. R. S. Bankole (sales executive, Wellcome-Lepetit (Nigeria), Ltd.), presented token gifts to Mrs. Funlayo Johnson, wife of the Governor of the State. The company's factory is situated at Ikeja, where the anniversary celebrations were held.

IRISH NEWS**THE REPUBLIC****Council Election****LATEST DATE FOR NOMINATIONS**

NOMINATIONS for the Pharmaceutical Society of Ireland Council election must be received by the secretary by noon on September 23. The rotation list published in the Society's calendar is incorrect and the following are the retiring members:— Miss L. Cunniffe and Messrs. D. J. Kennelly, G. C. O'Neill, M. L. Cashman, M. F. Walsh, M. Power and R. J. Semple.

IRISH BREVITIES**THE NORTH**

PRESCRIPTIONS dispensed in Northern Ireland during June numbered 895,958 (560,815 forms). Total cost was £601,569, an average of 161.14d. per prescription.

OVERSEAS NEWS**UNITED STATES****Stricter Labelling Rules**

THE United States Government is proposing to tighten regulations on promotional drug labelling. The change, proposed by the Food and Drug Administration, requires that essential prescribing information in promotional labelling be "the same in language and emphasis" as the package insert. The F.D.A. have found the current regulation that the language be "substantially the same" inadequate because, in some instances, important prescribing information has been omitted in promotional labelling or presented in a misleading manner. The proposed requirement would apply to those parts of the labelling dealing with the drug's effects; indications; routes, methods, and frequency and duration of admini-

stration; hazards, warnings, side effects, contraindications, and precautions to be taken in use.

Proposals on Antibiotics in Food

THE United States Food and Drug Administration proposes to establish a time limit for use of some oral antibiotics in food-producing animals. It would require halting the use of streptomycin, dihydrostreptomycin, and penicillin alone or in combination five days before animals are marketed for food. Food-additive regulations would be established for those products for which adequate residue data are available and would specify required withdrawal periods. (The food-additive amendments to the Federal Food, Drug, and Cosmetic Act require proof of safety of antibiotic residues or the period of time required for them to be eliminated from animals' bodies before marketing).

Pharmacies Suffer in South-eastern Floods

SOME MANUFACTURERS ALSO AFFECTED

PHARMACIES in Essex, Kent, Sussex and Surrey were affected by the widespread flooding in south-east England that followed heavy rain that fell on September 14 and continued intermittently for several days.

Cellars Flooded

One of the worst-hit areas was Kent. In Dartford Mr. W. T. Tucker, 5 Hythe Street, was on Tuesday afternoon still waiting to have his cellar pumped clear of flood water. Stock in the cellar was a total loss and Mr. Tucker was unable to make telephone calls, though incoming calls were not affected. THE CHEMIST AND DRUGGIST was unable to contact the branches of Boots, Ltd., and Timothy Whites & Taylors, Ltd., in High Street, Dartford, but Mr. Tucker said their cellars had also been flooded and the Boots branch was without electricity on Monday afternoon. The premises of W. F. and M. E. Parry, 164 Lowfield Street, Dartford, were believed also flooded. The Dartford complex of Burroughs Wellcome & Co. suffered slight delays in receipt of orders from head office in London, but was otherwise unaffected. The company's Beckenham premises suffered from flooding in one basement and from lack of communications, telephone service being cut off and vans delayed. There was, however, "no disruption of research or production." The small multiple Howells & Harrison (Southend), Ltd., had telephones cut off and lost a small amount of stock in their branches at Erith, Crayford and Bexley. At Tonbridge stock was reported to be floating into the street from the pharmacy of C. W. Scrace and N. A. Nicholls, 9 High Street, and from Boots, Ltd., 26 High Street. The Boots branch is understood to have had a plate glass window broken, probably by a boat, but precise details could not be ascertained. Also reported damaged was the Weald Pharmacy (East Peckham), Ltd., The Pound, East Peckham.

One specially unlucky pharmacist was Mr. G. E. Davis, Edenbridge, who; though he escaped damage from flood water, suffered considerable loss when his home was looted while he was out lending a hand to help others in distress. The High Street, Lewisham, branch of Boots, Ltd., had its main switches flooded, and the main part of the shop could not be opened on Monday owing to lack of lighting; about £50 worth of toilet stock was damaged but a dispensing service was maintained throughout.

In Essex at the branch of Howells & Harrison (Southend), Ltd., Broadway, Thorpe Bay, a sewer flooded back causing £600 worth of damage. In South Benfleet water was coming like a river into the window of James Miall, Ltd., on Saturday. Stock in the window was lost and the water rose to a height of 5-6 ft. Mr. C. M. Donaldson, Dock Road, Tilbury, was more fortunate. He had water to a depth of 3-4 in. throughout the shop on Sunday, but luckily it was clean water forced up from the mains and not surface water. By Monday the water had subsided. Four policemen and ten to fifteen other helpers came to the aid of Mr. A. V. Corden, Lower Street, Pulborough, Sussex, at 2 a.m. on Sunday morning and moved most of his stock to safety. He was able to open for business on Monday after the water had been pumped out by the river authority.

New Hazard

When Mr. A. Lockie, 54 High Street, Billingshurst, Sussex, was contacted on Tuesday he was busy moving his stock to safety from a new hazard after having had 6 in. of water throughout his shop on Sunday. A fire had started in an ironmonger's shop next door.

A Surrey pharmacy reported to have had flooded cellars was that of E. Moss, Ltd., 15 High Street, Guildford. On

Monday night the shop was reported as being unapproachable by road. As the pharmacy was officially on rota duty the whole of the rota was taken over by the other pharmacy on duty, that of Timothy Whites & Taylors, Ltd.

Tablets Recovered

On Tuesday morning a warning was broadcast by the B.B.C. that tablets had been washed out of the B.D.H. Research, Ltd., dépôt at Godalming. Fortunately the flooding turned out to have been lighter than at first feared and the tablets (mainly anti-diarrhoea tablets due for destruction and oral contraceptives) had all been recovered by the afternoon. Another pharmaceutical house to suffer from the floods was the Allen & Hanburys, Ltd., establishment at Ware, Herts, but the damage was not heavy and there was no dislocation of production, the main inconvenience being the difficulties encountered by staff in travelling to and from work.

The pharmacy of I. S. Burt & Partners, Stanstead Abbots, had flood water to the depth of 9 or 10 in. during Tuesday. Mr. John Collins (one of the partners) said it arrived during the early hours but, having had warning of the experience of the former owners when the pharmacy was last flooded, the water was filtered on entry by plugging all cracks with cotton wool. Thus they were spared the mud when the water went down. There was no structural damage to the premises but a good deal of stock was lost. Customers were served through a window.

It was reported on the B.B.C. and in the national Press on Wednesday morning that some of the worst floods had occurred the previous day at East and West Molesey but it proved impossible before going to Press to contact any of the pharmacies believed to be flooded.

NEWS IN BRIEF

SIXTH assembly and congress of the Council of Societies of Industrial Design is being held in London in September 1969.

BRITISH RAIL is to extend its Freightliner network across the Irish Sea with the building of two container-ships to operate from Holyhead to Belfast and Dublin. They should be fully operational by mid-1970.

The National Health Service (Designation of London Teaching Hospitals) Amendment (No. 1) Order, 1968 (H.M. Stationery Office, price sixpence) deletes the Fulham Maternity Hospital from the Charing Cross Hospital teaching group.

CHLORAMINE T and novobiocin are among newly listed chemicals as temporarily exempt from import duty under an Order published as S.I. 1968 No. 1384 effective September 5. The exemption of naphthalene is extended until November 7.

THE Patents Rules, 1968 (H.M. Stationery Office, price 7s. 6d.), effective November 1, in the main consolidate current legislation. A new title adds to the list of documents that are to be open for public inspection; another modifies the wording of the patent forms.

A FEASIBILITY study is to be conducted by the Post Office in conjunction with the Research Department of Anaesthetics in the Royal College of Surgeons of England to determine whether complex information about a patient's condition can be transmitted in analogue form over the public telephone network for analysis by a distant computer.

REGULATIONS came into effect on September 9, prescribing those goods and materials which an Executive Council may, subject to the consent of the Ministers and on terms approved by the Treasury, supply to practitioners as part of their arrangements for providing general medical services under Part IV of the National Health Service Act, 1946. They are understood to involve no changes in the present schedule.

A RECORD total of one million visitors to the Design Centre, London (daily average 3,377 visitors) is reported by the Council of Industrial Design in its twenty-third annual report, covering the year April 1, 1967 to March 31, 1968. In the report the Council announces its intention to develop the Centre as "a launching-pad and test-bed for new products." Courses and conferences organised for retailers increased to fifteen, with a noticeable increase in applications for courses approved by training boards.

SPORT

GOLF

EDINBURGH CHEMISTS' GOLF CLUB. An outing was held at Prestonfield Golf Club, Edinburgh, on September 11. Results: 4711 prize, B. Murray (26), 69. Best scratch score, tie, J. Mitchell and W. Steedman, 78. Section 1, T. W. Strachan (10), 72. Section No. 2, E. A. Boyle (27) and R. R. Jeffrey (17), 71. P.G. trophy (two rounds nett), T. R. Johnson, 147.

TOPICAL REFLECTIONS

By Xrayser

Professional session

The value of the contribution of Mr. D. F. Lewis to the professional session of the British Pharmaceutical Conference (p. 259 *et seq.*) lay in its historical survey of the steps which led to *Dickson v. The Pharmaceutical Society*. It was not to be expected that the speaker could do more, at the close, than delineate the prohibited areas now fenced off by the judgment, for close study will be necessary to appreciate the full extent of the pronouncements. I must confess that the evidence of the growing realisation by pharmacy as a whole that there were tendencies which seemed to detract from a desirable professional atmosphere did not appear to me to be reprehensible. Now, thanks to the industry of Mr. Lewis, we have the opportunity of studying the march of events in concise form, and while we may be debarred from acting corporately in achieving what was thought by many to be desirable, nothing in the judgment affects the decision or the will of the individual pharmacist to carry out, in his own pharmacy, the principles that have evolved over the years. The appearance of his premises may still reflect the professional character of pharmacy, and he is at liberty to make up his own mind in the matter of the range of services and goods offered in his establishment. It is highly unlikely that those who have pursued what they have considered to be a professional course will suffer themselves to be deflected from it because the Society has not the power to enforce such a course upon all. Restraint may be practised without being imposed. Though the Pharmaceutical Society has been deemed powerless if I should decide to add buckets and spades and lawnmowers to my stock of goods, nothing in the judgment compels me to take those items into stock. The discussion on the paper started, as is not unusual, in an irrelevant manner, but there were several well considered contributions, not the least useful being that of Mr. H. S. Grainger when he reminded the audience that the Society's task was to look to the future to see how pharmacy could be organised in the interests of the public. That has been the target for years, and a new course must be charted.

Controversial note

In welcoming the visitors to the Conference (p. 244), the president of the Pharmaceutical Society (Mr. Albert Howells) said it was not his wish to introduce a controversial note, but he was singularly successful in doing so. Indeed, there were several points in his remarks which seemed to me to require amplification, and some which required corroboration. The figures quoted by Mr. Howells illustrating the reduction in the number of points giving a pharmaceutical service to the public are unquestioned. They are official and verifiable. But the speaker referred to hundreds of pharmacists having abandoned general-practice pharmacy in the past few years and said that the public was beginning to notice the gaps in the High Street. How many hundreds? And having abandoned general practice, in what field are they now practising? I know that many have been unable to sell pharmacies and enter into well-earned retirement, and I know also of businesses closing down on the death of the owner because of their not being economically attractive. I know of pharmacies becoming redundant in depopulated areas, but none of those meets the situation referred to by the president. Unfortunately, there was no discussion.

National network

Mr. Howells said he believed that we should have to decide that the provision of pharmacies and of the pharmaceutical service could no longer be left to mere commercial chance, and that a national network of pharmacies would require to be established to meet the pharmaceutical needs of local communities, offering each practitioner a just reward in return for his services. Does Mr. Howells envisage a form of direction? And if the provision of a service is not to be left to commercial chance, has he in mind a form of subsidy, or perhaps a salaried service in health centres in areas in which no service is forthcoming? There are areas at the moment badly served and the gaps are not being filled.

CHEMICAL INDUSTRY TRAINING BOARD

"Not a bureaucratic machine," says chairman

"ALTHOUGH we were set up by statute, the last thing I want us to be is a bureaucratic machine external to the industry," MR. C. M. WRIGHT (chairman of the Chemical and Allied Products Industry Training Board) told journalists at the Board's Staines headquarters on September 17. "We are, indeed, part of the industry," he said, "and we are very conscious of the fact that we are here to give a service."

The Board, through its grants scheme (see *C. & D.*, August 24, p. 158), would be looking at training from the point of view of making the best use of human resources in relation to the industry, the individual company and the individual, not forgetting the importance of job satisfaction. While the importance of return on capital assets was well recognised, return on people—"our biggest asset"—received insufficient attention: in Britain about one and a half times as many people were employed per ton of products sold as in the United States.

The Board and its Functions

Details of the Board and how it operates were given during the Press conference. The Board has a full-time staff (at present about thirty but expected to be about seventy or eighty when complete), and part-time members of the Board and its committees from all sides of the industry, educational institutions and trade unions. The first ten "field staff" have been appointed and, following intensive briefing during October, they will begin the task of visiting the 3,500 establishments on the Board's register before July 31, 1969. Working from their homes, four will cover the south, three the north-west and three the north-east and Scotland. The team which, when complete, will number about twenty, is made up of members with a variety of backgrounds in the industry, the hope being that there will be a cross-fertilisation of ideas. When the geographical work load has been established, two or three regional offices will be set up. Administrative costs are being kept to a minimum. They are expected to amount to about 6 per cent. of the levy in the first year, 3 per cent. thereafter.

Outlining more of the Board's intentions, the director (MR. G. C. C. GELL) said the Board saw itself as adviser and co-ordinator, helping to spread ideas and methods that would be of real benefit to the industry. "We hope to catalyse rather than to coerce." Field staff would not be inspectors. Though they would have to do some checking of standards, their main job would be to help and advise. "As a consequence of this it is our intention, certainly until we are proved wrong, not to insist on inspection as a pre-condition of grant but rather to ask management, in what we consider to be a responsible industry, to ensure that conditions set forth in the grants scheme have been met, and to sign a certificate to this effect." The right to inspect or to call for independent certification would, however, be reserved.

Mr. Gell emphasised the Board's endeavour to help smaller companies by "smoothing the path" for those with total emoluments under £15,000 a year. Grant recognition for training "on-the-job" would, it was hoped, also be of particular help to small companies. A forward look was being taken on manpower requirements to avoid expending effort on training types of employees whose numbers were likely to shrink considerably over the next few years. To assist in achieving such forecasts, the Chemical Industries' Association is bringing up to date its 1967 man-power survey and, with the help of other

associations, will make it more comprehensive.

Analysis of the labour force covered by the Board has shown that approximately half (47 per cent.) are engaged in the manufacture of general inorganic and organic chemicals. In that area, only 19 per cent. of employees are female. Pharmaceuticals and sutures account for about 15 per cent. of the labour force (44 per cent. female); cosmetics, perfumery, aerosol products and filling for about 5 per cent. (62 per cent. female), and disinfectants and pesticides for 0.5 per cent. (22 per cent. female).

A booklet setting out in detail the 1968-69 training grants scheme is available from the Board at Staines House, 158 High Street, Staines, Middlesex.

TRYING OUT DECIMAL CURRENCY

Shop exhibitions in London and provinces

FOLLOWING the staging of an experimental shop (in which decimal currency only was used) at the Food and Drink Fair, Olympia (see *C. & D.*, September 14, p. 265), BURROUGHS MACHINES, LTD., Bath Road, Cranford, Middlesex, are arranging a mobile decimal shop exhibition that will tour thirty-five towns and cities in Britain and Ireland. An opportunity will thus be given to those retailers who have been unable to visit London (or the other large centres where similar experiments have taken place) to have a glimpse of the chaos that could develop after D. Day (February 15, 1971). Burroughs' first exhibition was staged in Acton, West London, September 16-20. The coins were rung up in a Burroughs "ABC" (already converted) cash register, with decimal tokens for the coins used by the "shoppers."

No Queuing for Conversion

The exhibition also featured a business office as it may look in 1971 with "ABC" adding and accounting machines designed to convert between the two currencies literally "at the flick of a switch." The ability of all Burroughs "ABC" machines to handle both £ s d and new pennies and halfpennies means that users can satisfy their decimalisation requirements now especially for staff training, without the risk of having to join the queue for conversion in 1971.

ALCAN (U.K.), LTD., Banbury, Oxfordshire, are staging their "Shop For Tomorrow" exhibition for retailers at the Midland Hotel, Manchester, September 24-26. The exhibition features a full-scale working decimal shop at which retailers will be able to purchase, under 1971 conditions, real items from several trades. Retailers will be able to learn some of the techniques required for decimalisation and also the latest in shop modernisation equipment.

A similar exhibition was staged by the company at Birmingham earlier in the year (see *C. & D.*, March 9, p. 215), and at Olympia's "Shop Show".

As a prelude to the Manchester exhibition Messrs. Alcan commissioned British Market Research Bureau to carry out a "decimal awareness" sur-

vey in that city. They interviewed 100 independent retailers including twenty-five chemists. Even though 77 per cent. of independent retailers felt that their customers would depend on their advice during the decimal change-over, only 9 per cent. could correctly identify the decimal coins that would be in circulation in 1971. The survey results went on to show that half of the retailers did not know when the change-over would begin, and only 28 per cent. knew that there would be six denominations of decimal coins. Two thirds (66 per cent.) had not taken steps or made any plans for staff training or decimal pricing. Only 9 per cent. could solve three simple conversion problems. In addition, it was found that half had not thought of dual pricing, or did not think they would have to dual price. Although 23 per cent. of those interviewed had arranged conversion to decimal cash registers, only 3 per cent. had arranged conversion of their accounting systems. The report says that danger to trade resulting from lack of knowledge is shown by the fact that almost two-thirds of the retailers felt that housewives would shop where they received the most help during the decimal change-over.

The RETAIL ALLIANCE (of which the National Pharmaceutical Union is a member) has arranged a series of meetings to be held in towns throughout Great Britain at which retail proprietors will hear speakers fully briefed on the decimalisation programme. First meeting is on October 14 at Chester and the last (announced) at Carlisle on May 12, 1969. A special programme of meetings for London is being announced later. At a Press conference on September 17, Mr. B. Reed (chairman of the Alliance) said that staff training would be best given three months before D day. Given earlier it would confuse assistants. The Alliance would plan an intensive training programme.

N.H.S. STATISTICS

In BIRMINGHAM during May contractors dispensed 594,410 prescriptions (374,170 forms) at a total cost of £303,978 (average 122.73d. per prescription).

A WHOLESALER IN LIQUIDATION

Creditors' meeting confirms winding-up decision

CLERKENWELL CHEMISTS LTD. (formerly BUTLER & CRISPE, LTD.), 10 Clerkenwell Road, London, E.C.1, wholesale chemists' distributors apparently incurred a trading loss of about £7,800 from the end of March 1967 to February 21, said Mr. R. P. Booth, F.C.A., at a meeting of creditors held on September 10. The meeting was to consider a voluntary winding-up of the company. An approximate statement of affairs, as at February 21, the date of the appointment of a receiver and manager by the debenture holders, showed unsecured creditors were owed £132,442, of which £112,579 was on trade account, £15,657 to expense creditors, £1,206 to Midland Bank, Ltd., and £10,000 in respect of contingent liabilities (dilapidations on expiring leases).

Book value assets of £218,264 were estimated to realise £186,987, less £38,690 due to preferential creditors and £28,257 to the debenture holders, leaving net assets of £120,040, or a deficiency of £19,402. The latter excluded the cost of the receivership and the liquidation, together with any surplus or deficiency on trading pending realisation of the assets. Notes explained that: (1) No provision had been made for future liability for pension payments or for redundancy payments or accrued holiday pay for employees and (2) The statement was prepared on the assumption that the business, including the stock in trade, and furniture, fittings and utensils, might be sold on a going concern basis. If, however, that could not be achieved, a considerably lower value might be realised for the assets. Mr. Booth reported that the company was incorporated in 1950 and took over an old-established business which had originally commenced round about 1800, or even before. Nominal capital was £200,000, of which £95,550 had been issued. There had been a large number of changes in directors over the years, the two present directors being Mr. L. H. Crispe and Mr. R. N. Crispe.

Lack of Capital and Control

Trading appeared to have been fairly successful until 1960, since when losses had been sustained, due, not only to lack of capital, but also to the wide area of distribution, increasing competition, profit margins being cut, the free service of deliveries, and to some extent lack of control by the directors. It seemed, said Mr. Booth, that this was aggravated by the dilution of the efforts of the directors in managing the affairs of Albemarle Chemists, Ltd., a wholly owned subsidiary, which operated a number of retail shops. The subsidiary suffered from lack of capital and it appeared to be necessary for the parent company to supply goods on credit and provide unsecured loans on current account.

Continuing, Mr. Booth stated that the company's difficulties became acute in 1966, and the directors decided to dismiss about twenty employees in order to achieve some economies in

operating. However, that led to further difficulties and delays in dealing with orders. Subsequently, the company was handicapped in obtaining supplies due to credit restrictions imposed by suppliers.

Retail Shops Sold

The retail shops of Albemarle Chemists, Ltd., were sold in November 1967. About that time the directors were also advised that the company should be sold rather than re-financed from within and negotiations were commenced with an interested purchaser. Definite negotiations were entered into and the debenture holders appointed Mr. P. Macnamara, F.C.A., as receiver and manager on February 21, to deal with the sale.

Trading accounts showed that for the year ended March 31, 1965 on turnover of £883,270 there was a net profit of £1,188, but in the following year on turnover of £876,070 a net loss of £11,796 was incurred. The year to March 31, 1967 revealed turnover of £777,910 on which the net loss was £25,648, and at that date there was a debit balance on profit and loss account of £40,883.

Potential Offer

Mr. Booth informed the meeting that the receiver had continued to trade through the medium of a wholly owned subsidiary company and it was the receiver's view that the potential purchaser's offer was likely to result in a greater realisation than would be achieved by a forced sale of the assets. The receiver had stated that he considered that the trading loss incurred during his receivership would be approximately equalled by the sum which could be obtained for the goodwill of the continuing business, including tax losses. Mr. Booth understood that the landlords of the leasehold premises had entered claims for dilapidations in excess of the figure of £10,000, shown in the statement of affairs. Referring to the subsidiary, Albemarle Chemists, Ltd., Mr. Booth said that the company had entered into voluntary liquidation and its statement of affairs showed liabilities of £43,000 with assets expected to produce a dividend of about 4s. 8d. in the £.

Concluding his report, Mr. Booth mentioned that Mr. L. H. Crispe, shown as a creditor for £2,016 for unpaid remuneration, would probably make a claim in respect of a service agreement granted to him in 1964, which had not been allowed for in the statement of affairs. After the chairman (Mr. R. N. Crispe) had replied to questions from Mr. N. Cork (representing creditors) regarding the disposal of moneys received from the sale of Albemarle Chemists, Ltd. shops, creditors passed a resolution confirming the voluntary winding-up of the company with Mr. R. P. Booth, Booth, White & Co., 1 Wardrobe Place, Carter Lane, London, E.C.4, appointed as liquidator.

LEGAL REPORTS

Forged Prescription

It was stated at Grimsby, Lincs, borough magistrates' court recently that a Grimsby chemist had received a prescription for thirty-four dexamphetamine tablets and, because of the unusual number called for, had contacted the police. Edward Charles Dowson, 58 Pershore Avenue, Grimsby, pleaded guilty to forging a National Health Service prescription with intent to defraud and, also with intent to defraud, endeavouring to obtain from Mr. Frank Hargreaves, F.P.S., thirty-four tablets of dexamphetamine. Dowson was granted a conditional discharge for two years in each case. The court was told that Dowson had been prescribed the drugs by his doctor and had altered from twenty-four to thirty-four the number of tablets prescribed. A statement by Dowson said he had periods of deep depression. He had been prescribed the tablets on occasions, but did not like to keep asking for them and had altered the number.

Pharmacist Sent to Prison

"THIS is a dreadful moment for you and this court. You have ruined yourself, but one cannot overlook the fact that you have committed an extremely grave breach of trust and that you were the source from which drugs, which might do untold harm, were flooded into the market," said the chairman at West Riding Quarter Sessions, Wakefield, Yorks, on September 12, when John Bentley Harrison, M.P.S., Doncaster Road, Hatfield, Doncaster, pleaded guilty to five charges of stealing a total of 5,000 Drinamyl tablets while a servant to A. C. Daykin, Ltd., Station Road, Stainforth, and asked for fifteen other similar offences to be considered. Prosecution alleged that, over a period of eight months, Harrison (who had been committed from Thorne West Riding court) had supplied 20,000 Drinamyl tablets to a friend whom he knew to be "peddling" them for a profit. The five charges were sample ones. Harrison was sent to prison for a year.

COMPANY NEWS

Previous year's figures in parentheses

RIMMEL, LTD.—Applications have been received from Ordinary holders of Sanitas Trust Ltd. and Mr. R. S. Caplin and members of his family and family trusts, in respect of more than 97 per cent. of the Ordinary shares issued (see also C. & D., August 10, p. 118).

DIXONS PHOTOGRAPHIC, LTD.—Sales and profits for the current year are ahead of the same period last year but chairman (Mr. C. Kalms) points out that the final result will largely depend on the economic policies of the Government. Including new stores and concessions opened in the year ended April 27, a total of ninety branches were operated. In the current year the hundredth branch is expected to be opened.

LONDON RUBBER CO., LTD.—The company has acquired control of John Lovibond & Sons, Ltd., the Greenwich-based wine merchants, London Rubber, who themselves own a chain of forty-eight self-service wine stores operating under the name of Wine Ways, have made an offer for the whole of the Ordinary Share capital of Lovibonds, which has been accepted by the holders of the majority of the shares and is declared unconditional.

BADISCHE ANILIN- & SODA-FABRIK, A.G. (B.A.S.F.), Western Germany, have established a pharmaceutical division. Professor Dr. H. Pommer (formerly head of B.A.S.F.'s main laboratory) is taking over the direction of the division. As the second step towards entering the pharmaceutical sphere B.A.S.F. has taken over a 100 per cent. share in Nordmark-Werke, G.m.b.H., Hamburg, at a nominal cost of DM. 13,932,000. Nordmark-Werke, G.m.b.H., will continue to operate as an independent company within the group. Founded in 1927, that company had a turnover of DM. 53 m. in 1967 and a good profit yield.

SOUTH AFRICAN DRUGGISTS, LTD.—The company proposes to increase its capital to R.7.8m. by the creation of 1.8m. Ordinary shares of a nominal value of R.1 each, to enable the directors to implement an offer which has been made to holders of Ordinary shares in Petersen Holdings. Any shares not used by them for the purpose of the take-over will be placed at the disposal of the directors. South African Druggists is offering to acquire the whole of the issued 5m. Ordinary 50c. shares in Petersen as well as the 70,000 6 per cent. cumulative Preference shares of R.2 each. The considerations offered are either 80c. in cash for each Ordinary share held in Petersen, or Ordinary R.1 shares in South African Druggists in the proportion of 25 S.A. Druggist shares for every 100 Petersen shares held.

STANLEY WESTON GROUP, LTD., and ARNOLD M. GEE, LTD.—A merger on a share exchange basis has been agreed between the Stanley Weston Group, Ltd., and Arnold M. Gee, Ltd. The bid is worth about £664,000 on the terms offered, namely two Weston Ordinary shares for every nine of Gee. On the offer becoming unconditional, Gee will pay a special interim dividend of 5 per cent. to existing holders. Through its subsidiary (R. Weston (Chemists), Ltd.) the Weston Group own a chain of over eighty pharmacies and photographic shops mainly in the Sheffield, Birmingham and South Coast areas. The acquisition of Arnold M. Gee, Ltd., with its twenty-six retail branches and wholesale company (Metropolitan Drug Co., Ltd.) will give them, for the first time, a base in the Greater London area.

BUSINESS CHANGES

AMELCO IMPORTS (LONDON), LTD., have removed to 15 Marlborough Mansions, Cannon Hill, London, N.W.6 (telephone: 01-435 4046).

G. W. SCADDAN & CO., LTD.,

Woodley, Reading, have acquired the pharmacy of Mr. C. H. Patrick, M.P.S., Twyford, Berks.

R. WESTON (CHEMISTS), LTD., have opened a large establishment at 407 The Bull Ring Centre, Smallbrook, Birmingham, 5 (telephone: 021-643 9710), under the management of Mr. T. Barker, M.P.S.

VESTRIC, LTD., notify the following changes in their branches:—Address for Woolley & Arnfield (Preston) branch from September 30 will be Fletcher Road, Preston (telephone: Preston 57182). The telephone numbers of the Rowland James branch at Cardiff from September 21, are:—Day: Cardiff 564822; Night: 562321; Hospital: 563253.

APPOINTMENTS

Directors

JOSEPH CROSFIELD & SONS, LTD.—Mr. H. Stromberg has been re-elected to the board as research director. Mr. J. A. Alcock is retiring on reaching the age limit.

COCKBURN & CO., LTD.—Messrs. Thomas Cockburn Kelly, M.P.S., and Charles Cockburn Kelly, M.P.S. (grandsons of the founder of the company) have been appointed joint managing directors. They take over at the end of September from Mr. J. Aitchison, M.P.S., F.B.O.A., who is retiring after serving the company for over fifty years—the last fourteen as managing director. Mr. Aitchison has accepted an invitation to remain on the board.

BOOTS PURE DRUG CO., LTD.—Following the acquisition of Timothy Whites & Taylors, Ltd., by Boots Pure Drug Co., Ltd., Mr. Robert C. Gibb (managing director, Timothy Whites & Taylors, Ltd.) has joined the board of Messrs. Boots. Messrs. Ben Jefferies, Alan D. Spencer and K. D. Williamson (of Messrs. Boots) have joined the board of Timothy Whites & Taylors, Ltd. Messrs. J. B. Andras, K. G. Lyon and D. L. Nicholas have resigned from the board of Timothy Whites & Taylors, Ltd.

Executives

BOEHRINGER INGELHEIM, LTD.—Dr. Julian H. Shelley has been appointed to the board.



JUST OFF THE PRESS: Mr. Eric Bayliss (left), manager of the Clunbury Press (a subsidiary of Cooper, McDougall & Robertson, Ltd., Ravens Lane, Berkhamsted, Herts), hands over to Mr. Brian Fraser-Clements (field sales manager of the company's household division) the first "Cooperman" poster produced in support of current offer of 8-oz Fresh-Aire aerosol on bonus terms.

BDH CHEMICALS, LTD., have appointed Mr. R. Butcher (former inorganic production manager at W Quay Road, Poole), technical manager of the company's overseas division.

BOURJOIS, LTD.—Mr. R. H. Wick (recently sales representative North and East London), has been promoted to southern regional manager.

PERSONALITIES

MR. W. B. HENNESSY, Detroit, Michigan, U.S.A., has been elected 1969-70 president of the American Pharmaceutical Association.

MR. C. H. PATRICK, Twyford, Berks, who retires on October 1, has been in retail pharmacy for fifty-years, twenty-seven of which were spent with Boots, Ltd. Mr. Patrick was frequent (and frequently ebullient) contributor to the correspondence columns of THE CHEMIST AND DRUGGIST, and was always on the staff of the private retail pharmacist. He asks for his thanks to be passed on to the manufacturers and wholesalers who have helped him in his years of proprietorship.

MR. LESLIE G. MATTHEWS, F.P.S., who has been awarded the Langdon medal (see p. 289) to recognise distinguished writing in pharmaceutical history, has devoted many years to study of pharmaceutical history. He is a Fellow of the Society of Antiquaries, President of the British Society for the History of Pharmacy, and a founding member of the Society of Post Medieval Archaeology, and he is a Liveryman of the Society of Apothecaries of London. In awarding the medal to Mr. Matthews, the American Institute of the History of Pharmacy has particularly commended him for his book, *History of Pharmacy in Britain*, published in 1962. In addition to that work, Matthews has published a number of papers relating to the history of pharmacy and his book, *The Role of the Apothecary*, was published in 1967 to coincide with the 350th anniversary of the Society of Apothecaries of London. Mr. Matthews has also contributed a number of articles to the C. & D.

OVERSEAS VISITS

MR. G. C. MOSER (export director, Radiol Chemicals, Ltd.), is visiting various countries in the Mediterranean area. On the return journey he will visit the company's agents in Malta and Italy.

DEATHS

BOWYER.—On September 10, Thomas Linley Bowyer, F.P.S., C. & D., September 14, p. 242). Booth (assistant head of the department of pharmacy, Liverpool College of Technology) writes: Mr. Bowyer was a fine teacher who presented lectures in a manner that transmitted his understanding and enthusiasm to his students. Students were all-important to him and he was never too busy to deal with their academic and personal problems in a patient and sympathetic way. Many pharmacists will

ember with gratitude the help they received from this man of great kindness, who brought Christian principles into his everyday life to an extent too rarely experienced. His colleagues and many friends will, like myself, feel privileged to have known a man whose qualities of warmth, humanity, simplicity, humility and good nature made life the richer. His sense of humour illuminated many a day, and some of his more whimsical flights of fancy will long be gleefully remembered by his colleagues. The enthusiasm which he brought to his work was also extended to other activities in the Methodist Church, in Civil Defence and as a keen supporter of his favourite football team. College staff, students past and present and many others will feel a great personal loss at the death of this truly good man, and will wish to extend their condolences to his widow and four daughters, who were so obviously his pride and joy.

COFMAN-NICORESTI.—On August 5, Dr. Jules Cofman-Nicoresti, M.P.S., 18 Lord Roberts Avenue, Leigh-on-Sea, Essex. Dr. Cofman-Nicoresti qualified as a pharmacist in 1918.

Mr. C. Barrie Smith writes:— Jules Cofman-Nicoresti was one of an interesting family. His uncle, whose pharmacy in Holborn he managed for a while, came to Britain from Rumania, and did the four brothers and a sister who all qualified in the United Kingdom (the name Nicoresti is taken from their birthplace). I met Jules for the first time in 1922, when I was managing a French pharmacy in Monte Carlo and the proprietor of another French pharmacy asked me to help find him an English pharmacist for his establishment. I advertised in THE CHEMIST AND DRUGGIST, received several replies, and wrote to Jules Cofman, who was then working in Rome in the *Farmacia Roberts*. In due course I met Jules when he arrived at Monte Carlo station, his only luggage a rucksack and a lapel badge that read *Club Alpino Italiano*. I met him again a few years later when he was managing director of the *Société Française du Lysol* in Paris. He invited me to join the board and I accepted. The business dealt also in viticultural and agricultural insecticides, but the economic crisis of the early 'thirties put paid to it as to many others. During that period Jules and his brother Victor attended a short course at Lenci University for a doctorate of Pharmacy. Both were awarded the doctorate after a session of about three months at the University. I next met Jules in London early in the 1939-45 war. His mind was continually occupied with original, though not always practical, ideas and his office at that time was incandescent with newly conceived luminous paints (for arm-bands in the black-out). After that I saw Jules only on rare occasions.

DAVIS.—On September 12, Mr. Frank George Davis, M.P.S., 35 Thursby Road, Highcliffe, Christchurch, Hants. Mr. Davis qualified in 1921 and gained experience in retail pharmacy in Loughborough and Brighton before opening his own pharmacy in New Malden, Surrey, in partnership

with his brother, an optician. He took an active interest in pharmacy and community affairs. He was a former chairman of the Thames Valley Branch of the Pharmaceutical Society and a member of the Pharmaceutical Committee of the Surrey Executive Council. Outside his professional interests he was a keen member of the Rotary movement. Mr. Davis was a keen woodcarver and some years ago he carved a crest of the "Square" for the late Norman Dewey. When the architects were designing the new buildings for the school of pharmacy in Brunswick Square Norman Dewey offered the carving for inclusion in the

décor and it is now placed above the dean's chair in the refectory. Mr. Davis leaves a widow and three sons.

HALL.—Recently, Mr. Fred Hall, M.P.S., 9 Bowden Lane, Chapel-en-le-Frith, Derbyshire, aged seventy-three. Mr. Hall qualified in 1921 and had been in business in Chapel-en-le-Frith since 1919.

JONES.—On September 5, Mr. Robert Owen Jones, M.P.S., 44 Enborne Road, Newbury, Berks, aged seventy-four. Mr. Jones qualified in 1926 and was manager of Hickman & Son, Ltd., Newbury, Berks, for forty years until his retirement in January.

Correspondence

Letters when received must bear the name and address of the sender, not necessarily for publication. The Editor does not hold himself responsible for the views expressed.

Price Of An Antibiotic

SIR.—Your editorial of last week (C. & D., September 14, p. 258) under the heading "A Misleading Figure" expressed the view that pharmacists could well have gained the impression that the price quoted in the national Press for our new antibiotic speciality Telotrex referred to price paid by the customer on prescription. Whilst we regret any confusion that may have arisen over prices, we believe that inconvenience to retail pharmacists will have been minimal as, prior to the release of information to the Press, all retail pharmacists were advised separately by letter of the reduction by more than 50 per cent of the price of Telotrex (tetracycline hydrochloride, Bristol). That letter listed the new trade prices for all packs.

P. J. JANSEN, *Marketing Manager*,
Bristol Laboratories, Ltd.,
Feltham, Middlesex

Efficient Wholesale Service Wanted

SIR.—After your report of the British Pharmaceutical Conference, inclusive of confirmation that pharmacy is a profession, what do I hear? That Haliborange tablets are to be advertised with "2s. off," and to crown it that these will not be available via the wholesaler but only in fixed parcels direct! I don't want the "money-off" offer (but may need to oblige an occasional customer). I don't want the large (for me badly assorted) parcel, or even the verbally hinted six months' credit. I do want an efficient wholesaler service, even if it has to be mainly the Allenbury-Glaxo-Vestric colossus, buying up my best pharmaceutical wholesaler friends. The sooner "the industry" becomes again "pharmaceutical," the sooner all of us get away from these illusions of price-cuts and on to a sounder economic basis, the better for everybody, including the public.

PHARMACIST

Stimulus To Thinking

SIR.—Re Mr. Farr's letter of last week (C. & D., September 14, p. 264). I am very pleased that Mr. Farr is so interested in the Action Group and the problems relating to pharmacy as a whole. One of the Group's main aims

is to stimulate pharmacists and awaken them from their deep sleep, and encourage them to ask questions and take an interest in the financial status of our profession. Our policy has evidently succeeded with Mr. Farr. Even though he attacks us, at least it shows that our actions have set him thinking, which is the whole object of the exercise. We hope more pharmacists will start questioning the important matters affecting our professional remuneration, even if it means that we are subjecting ourselves to fresh abuse and attack. We feel that the Chemists' Action Group is serving pharmacy in no uncertain way, and that the final results will justify the efforts we have made.

STANLEY BLUM, *Chairman*,
Chemists' Action Group,
London, W.1

High Noon?

SIR.—It is heartening to see chemists having a chance to fire their questions at the men in power. I. M. Farr has shown persistence in pinning down A. D. Vaughan and Stanley Blum. On September 7 (p. 228) Mr. Blum offered to reply privately by post. That seemed a reasonable offer to me. Can anyone see anything wrong with it? Perhaps Mr. Farr's employer won't tell him Mr. Blum's address. Why else does Mr. Farr reiterate his position in C. & D. Sept. 14; and not write privately? Is he acting under orders from some big-gun, or big goon as they say up North, of his own? Suppose that forward knowledge of C. A. G. plans is important to someone, should we not know who that someone is? It can't be poor Farr because he hasn't accepted Stanley's offer. Let all concerned be as open as C.A.G. about the whole business, or else let the matter drop.

R. C. BURKE JONES,
Basildon, Essex

"Reject the Scheme"

SIR.—It does not seem our business to devise the scheme by which the prescription levy is collected. I do feel, however, that any system which requires the patient to write upon the prescription can be turned down flat.

J. McDONNELL,
Southend-on-Sea

TRADE NOTES

In Tube Also.—Cup of Youth nourishing cream of Max Factor Hollywood and London (Sales), Ltd., 16 Old Bond Street, London, W.1, is now obtainable in stand-up tube (10s. 6d.) as well as lightweight jar.

"Own Brand" Service.—Arthur H. Cox & Co., Ltd., Brighton, BN2 3QJ, undertake for any chemist using the Cox chemist own-brand service to design own-brand mark, package under own-brand label and deliver at no extra cost.

Christmas Perfumes and Atomisers.—Chemists are recommended to place Christmas orders now for Jean Patou perfumes and Step perfume atomisers and compacts, which are distributed in this country exclusively by E. M. Douek & Co., Ltd., 18 Baker Street, London, W.1.

New Northern Ireland Distributor.—Keldon, Ltd., Wadsworth Road, Perivale, Middlesex, announce that, from September 23, Hyde & Entwistle, Cupar Buildings, Cupar Street, Belfast, 13 (telephone: 33811) are assuming responsibility for the distribution of the products of the Optrex group of companies in Northern Ireland.

Change of Source.—Imperial Chemical Industries, Ltd., pharmaceuticals division, Alderley House, Alderley Park, Macclesfield, Ches, announce that with effect from September 30, the marketing and distribution of all packs and strengths of Anapolon and Metilar tablets is being undertaken by Syntex Pharmaceuticals, Ltd. From that date all supplies should be obtained through usual wholesalers. Inquiries should be addressed to Messrs. Syntex at St. Ives House, Maidenhead, Berks.

Use Up Your Stocks.—Notification that on October 9 the prices of Achromycin capsules, tablets and syrup and of Achromycin V capsules are being reduced is made by Lederle Laboratories division of Cyanamid of Great Britain, Ltd., Bush House, Aldwych, London, W.C.2, in order to allow current stocks to be exhausted before the new price applies to the reimbursement of N.H.S. prescriptions. Credit, say the

makers, will not be given for stock held at that time.

Change of Trade Terms.—Pharmaceutical Specialities (May & Baker), Ltd., Dagenham, Essex, announce that, from October 1, they are reluctantly compelled to add a processing and carriage fee of 5s. for each individual trade consignment of net value below £5. Hitherto deliveries have been (with few exceptions) free of charge, but with increased postal rates and processing costs it is no longer economic to do so for orders of low net value. Free delivery will continue for orders to a net value of £5 or over, apart from c.o.d., registered or express parcels post, passenger train, etc., where charges are extra.

Change of Tablet Strength.—From October 1, Brontyl tablets (formerly 120 mgm.) are being replaced by a tablet containing 300 mgm. of proxyphylline and presented as Brontyl 300. Dosage scale for adults is reduced to three or four tablets daily and for children (7-14 years) to half a tablet three times a day. Each Brontyl-300 tablet contains 300 mgm. of proxyphylline, a neutral, water-soluble theophylline derivative which can be given by



COUPON OFFER: Specially designed display material to support offers of special 1s. discount coupon for Poly Care instant hair conditioner inside each special pack of Polyblonde and Polyfair.

"LEADING" WEIGHT-CONTROL PRODUCT

Ponderax director cites Guy's Hospital researches

IN a letter to the *C. & D.*, Mr. N. Santer (director of Selpharm Laboratories, Ltd., Harrow, Middlesex) states: "Results of some very important and interesting research were recently published on the metabolic effects of fenfluramine (Ponderax) in obese subjects (*Lancet*, 1968. II. 109). Professor W. J. H. Butterfield and Miss M. J. Whichelow, of Guy's Hospital, found that fenfluramine causes an increase in muscle glucose uptake by facilitating insulin clearance. In earlier research the same workers found that obese subjects have a reduced power of muscle glucose usage, thus enabling ingested carbohydrate to be diverted to adipose tissue. Whilst that metabolic defect in obesity has not received great attention in the past, we now feel at

Selpharm that, with the advent of a means of reversing the muscle glucose uptake block, the matter assumes great clinical importance."

For some time Ponderax has been acknowledged a successful therapy for weight control, especially as it involves no stimulation of the central nervous system nor suppression of paradoxical sleep. Indeed, Ponderax is now the leading product in this field. In the light of the new findings, its rôle in obesity requires a redefinition. Earlier animal experiments have shown that the effect of Ponderax differs from that of glucose metabolism stimulant drugs. The name of glycoliptic agent has been applied to compounds that restore equilibrium where an imbalance exists between the tissues in glucose and/or lipid metabolism.

mouth without causing gastric irritation. Brontyl 300 is a bronchodilator, coronary vasodilator and diuretic with the widest range of therapeutic activity and the minimum toxicity. Packs, containers of thirty (6s.) and 100 (18s.) Brontyl 300 ampoules are available in box of five (9s. 6d.). Makers are Llo Hamol, Ltd., 103 Mount Street, London, W.1.

Test Equipment for Mexico Olympic.—Pye Unicam, Ltd., York Street, Cambridge, one of Britain's large manufacturers of scientific instruments, have been chosen to supply chromatographs for use at the X Olympic Games in Mexico during October. Three Pye Series 104 chromatographs are being used by the International Olympic Committee for routine detection and identification of stimulants and drugs that could be used to modify performance in sport.

Competitions

GOLDEN, LTD., Berkeley House, Berkeley Square, London, W.1. Recital cream hair colourant prizes colour television sets were won by following chemists: E. Moss, 1 Feltham, Middlesex; G. W. Scott, London, S.W.20; Savory & Moore, 1 London, W.1; M. V. Porter, Wallington, Surrey; London Co-op Chem Ltd., London, E.10; Lewis & Burrows Ltd., London, W.C.1; B. Abernethy, Belfast 8; C. W. M. Wright, Liverpool, 6, Lancs.; C. J. E. Stammers, Solihull, Warwicks; W. B. Staff, Ltd., Sheffield, Yorks; R. B. Gilbert, Nottingham; Mason & Co., Newcastle upon Tyne; N. L. Bannister, Portsmouth, Hants; Bannister Thatcher, Ltd., Birmingham, 16; D. Hunt, Norwich, Norfolk; Body's Pharmacy, Southend-on-Sea, Essex; C. Reeve, Bristol, 4, Glos.; Tudor Evans, Swansea, Glam.; J. D. England, Wigan, Lancs; Watts & Co. (Chemists), 1 Brighton, Sussex; C. L. Highfield, 1 Birmingham, 31; W. Johnson, Nottingham; John Sharpe (Chemists), 1 Birmingham 24; H. A. Rowe, Plymouth, Devon.

Bonus Offers

LENBROOK LABORATORIES, LTD., Thane Road West, Nottingham. Dulcine twelve invoiced as ten.

CO-CAPS (CODED CAPSULES), Lillie Road, London, S.W.6. Tyrocyline Co-caps. 300 invoiced as 200. On direct orders.

LASTONET PRODUCTS, LTD., Redruth, Cornwall. Lastoyarn products. 10% cent. extra discount on purchases from one pair upwards. Until December.

COOPER McDougall & Roberts Ltd., Ravens Lane, Berkhamstead, Herts. Freshaire aerosol, 8-oz. size stackable shrinkproof wrap. Fourteen invoiced as twelve.

RAVIKA, LTD., 2a Tottenham Road, London, N.13. Bubble bath in 12-oz. bottle (pine, lemon, lavender, heather or apple-blossom) thirteen invoiced as twelve. Till October 12.

THORNTON & ROSS, LTD., Linthwaite, Huddersfield, Yorks. Three Flavour cherry ginger concentrate. 1s. 2d. per doz. price on order for 3 doz.; 1s. 5d.

order for 6 doz.; 1s. 8d. on order for 2 doz. Until November 30.

MENTHOLATRUM CO., LTD., Slough, Bucks. *Deep Heat rub*, thirteen invoiced as twelve on 4s. size. Seven as six (or fourteen as twelve) on 6s. and 8s. sizes. *Mentholum balm*, thirteen as twelve, tins, jars or tubes until October 31.

GLAXO LABORATORIES, LTD., Greenford, Middlesex. Special discount parcel (2 oz. Complan, 2 doz. Ostermilk, four 8-oz. Casilan, six 100-mil Crystapen Syrup (250 mgm. per 5 mls); 500 50-mgm. Crystapen-V tablets, six 5-gm. tubes 1 per cent Efcortelan ointment, 500 5-mgm. Prednelan tablets), trade price £25 4s., at saving of £2 10s. 5d.).

Premium Offers

ALADDIN INDUSTRIES, LTD., Greenford, Middlesex. Aladdin food flask, Vesta beef risotto with each purchase.

Discontinued

BAYER PRODUCTS CO., Winthrop House, Sutton, Surrey. Mycardol. 5,000-tablet pack when present stocks are exhausted. Packs of 100 and 1,000 tablets continue available.

PFIZER, LTD., Sandwich, Kent. Tetracycline capsules, 250-mgm. Pack of 16. Tetracycline capsules 250-mgm. in packs of 100 and 1,000 continue available.

NEW PRODUCTS AND PACKS

PHARMACEUTICAL SPECIALITIES

Redesigned Packages. — Delandale Laboratories, Ltd., 37 Old Dover Road, Canterbury, Kent, have newly designed the packages of their Etophylate range of products, namely Etophylate syrup (200 mls and 2.2 litres); tablets (100, 200, 2,000); forte tablets (tubes of 100, 50, 1,000); ampoules (500 mgm. in 5 mls) in sixes and fifties; suppositories (12) and paediatric suppositories (12). The syrup is a recent addition to the range, replacing the previous 6-oz. bottle. The dispensing pack of 2.2 litres continues available.

For Infective Skin Conditions. — Gista Products, Ltd., Fleming Road, Speke, Liverpool, 24, announce the introduction of Haelan-C containing 0.125 per cent. of flurandrenolone with 3 per cent. of clioquinol for the



treatment of steroid responsive skin conditions in which infection is present or suspected. Haelan-C is available as cream (No. 6016) and ointment (No. 6017), each in tube of 30 gm. (7s. 6d.).

COSMETICS AND TOILETRIES

Cream Foam Bath. — To the range of "skin-cossetting" products, offered in the Personality range distributed by Penderon, Richards & Appelby, Ltd., 4 Rickmansworth Road, Watford, Herts, has been added a cream foam bath in the form of a pink lotion that foams in the bath into lightly fragrant,

creamy bubbles. The gilt-capped polythene bottle (3s. 6d.) holds 2 oz. (enough to turn four or five baths into four or five beauty treatments).



ENDS SEPTEMBER 30: Premium offer by Clairol, Ltd., 66 Baker Street, London, W.1. (enabling purchasers of Summer Blonde to buy a Trendsetter watch at a saving of 35s.) ends on September 30.

"Satin Touch" Talc. — To make bath-time with Fenjal complete, Scott & Bowne, Ltd., 50 Upper Brook Street, London, W.1, have introduced Fenjal satin touch talc as a follow-up to their creme bath and beauty soap. The ultra-fine talcum powder has the same delightful perfume as the other products in the range. Its plastic container (7s. 6d.) follows the shape of the waisted bottle used for the 33-bath size creme bath and is in a matching blue. The redesigned carton for Fenjal beauty soap is more compact and has a see-through front showing the three individual soap cartons inside. It is in white and gold.

Pomanders and Pot-pourri. — Specialising in traditional English

fragrant preparations and true flower perfumes Taylor of London, 169 Sloane Street, London, S.W.1, make both pomanders and pot-pourri in the traditional way and from authentic natural ingredients. Pomanders are decorative containers, usually spherical or orange-shaped, containing a spicy fragrance to be enjoyed at close proximity. The company's popular category pomanders are made by Wedgwood, Crown Staffordshire and other British potters and are guaranteed to keep their fragrance for fifty years. Pot-pourri, essentially a scented room freshener, is a blend of dried flowers and scented leaves. It should be placed in a shallow bowl to expose a wide surface of the mixture so that the fragrance can gently permeate a room. The petals should be stirred and turned over with the fingers from time to time to release fresh fragrance. New pomander models (38s. 6d. each) include Crown Staffordshire bone china "American Songbirds," "Old London Cries," "Coaching Scenes," "Orange Blossom" and "Dresden Spray".



HAIRDRESSING FOR MEN. Drive, the hairdressing for men recently put on the market by Gillette Industries, Ltd., Great West Road, Brentford, Middlesex, is an aerosol product in can with racing motif.

SUNDRIES

Theatre and Ward Dressings. — "Complete protection for operation incisions" is offered in new Elastoplast Airstrip dressings by Smith & Nephew, Ltd., Welwyn Garden City, Herts. The dressings, individually wrapped and sterilised and ready for immediate use, are in two sizes (19 x 19 cm.) with Melolin pad 12.5 x 4 cm.; and 27 x 9 cm. with Melolin pad 20 x 4 cm.), each in carton of ten. The pad isolates exudate from the wound, keeping it clean and dry. It is removed "without pulling at wound or sutures."



NEWCOMER TO RANGE: New Fenjal Satin Touch talc shown at right of its companions in the series. A new look has been given to the Fenjal beauty soap carton. Makers are Scott & Bowne, Ltd., 50 Upper Brook Street, London, W.1.

BRITISH PHARMACEUTICAL CONFERENCE 105th MEETING BIRMINGHAM 1968 CONFERENCE BANQUET

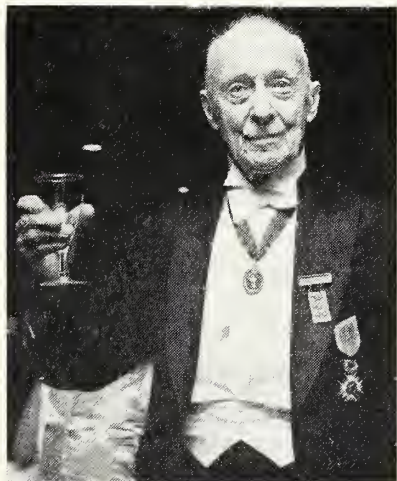
THE conference banquet was held at the Top Rank suite on Wednesday evening. Mr. H. Burlinson was again in the chair and during the meal he was pleased to "take wine" with Dr. T. E. Wallis, now in his ninety-second year.

The toast to the city of Birmingham and its Lord Mayor was proposed by MR. A. HOWELLS (president of the Pharmaceutical Society of Great Britain). Mr. Howells said he was sure that the Lord Mayor must be proud of the impressive face that Birmingham was showing the world. Though pharmacy could boast no such striking transformation, it could produce evidence of the progress made in the post-war period. Nowhere was that progress more evident than in pharmaceutical education, and nowhere was the standard of that education better exemplified than under Professor Harper at the University of Aston.

All the professions staffing the health team were pushing back the boundaries of their own knowledge, and their qualifications and ethics were accepted by the public as guarantees of good practice. One question tended to be overlooked, namely "Who educates the public in the correct and safe use of medicines?" With the increasing potency of medicines, there was often only a thin line to be drawn, in any colour, between their use and misuse. "Is the patient taught to distinguish that line, and to keep on the right side of it?"

Ensuring the Patient Understands

The chief medical officer at the Ministry of Health had said that the medical exercise was one in which pharmacists must be involved, for they could be the source of much valuable information for the doctor. Perhaps the most important task of all was that of ensuring that the patient understood. The pharmacist, said Mr. Howells, was cut out for that communications task by his training and his position as the last professional link between the



"TAKING WINE": Dr. T. E. Wallis, now ninety-two years old, responds to a greeting from the president.



THE TOAST TO THE CONFERENCE: Sir Arnold France proposes "The British Pharmaceutical Conference" at the Conference banquet.

patient and his medicine. There was evidence from all quarters that increasingly the public were turning to the pharmacists for advice on the use of medicines. The pharmacist, he believed, was showing himself to be the "safety officer" on the medicines front, recognising that he was the only member of the health team with oversight of the total — or almost total — consumption of medicines, prescribed and otherwise supplied. "In performing this task he is entitled to look to the Government, and to all the articulate guardians of the consumer interest, for encouragement and support." Some support and some encouragement, both long overdue, were now promised in the pages of the Medicines Bill. It was to be hoped the Bill would not only produce the public safeguards required, but would also guarantee a more responsible climate of public opinion on medicines and their use. Mr. Howells paid tribute to Birmingham's pharmacists, its 290 pharmacists, and the hospital pharmaceutical departments, which together served a population of well over one million inhabitants: "No mean achievement."

The success of the Conference was owed to the local committee, and he took the opportunity to thank them for their toil. The committee's chairman (Mr. Walker) and secretary (Mr. McArdle) had adopted Birmingham's own motto — "Forward" — to set the pace. Mr. McArdle had also shown artistic ability, having produced the drawings of foxglove for some of the Conference emblems.

Thanking the president for the toast, the Lord Mayor of Birmingham (ALDERMAN C. V. G. SIMPSON) referred to the city's rôle as a Conference venue, being at the centre both of the country

and the motorway system. The city, he said, appreciated the work of pharmacists, who had had many "testing" times. In respect of testing, Birmingham could claim to have led the country with its drug testing scheme. The city council, through its public health department, had had that close association with the city's pharmacists since 1956. Under the scheme there was sampling of drugs to ensure that the Birmingham public received a supply of medicines second to none. The success was due to the willing co-operation of local pharmacists. Alderman Simpson also praised the city's pharmacists for the commendable way in which they had co-operated with the local police in safeguarding the security of their drugs; the Pharmaceutical Society's inspectorate had also given both co-operation and advice. He hoped it would not be another twenty nine years before the Conference came again to Birmingham.

Two Major Bills

Proposing a toast to the British Pharmaceutical Conference and its chairman, SIR ARNOLD FRANCE, K.C.B. (Permanent Secretary, Ministry of Health) spoke of the "two major Bills" — the Medicines and Public Health Bills the latter now an Act. The Medicines Bill — "which you may well feel has been a long time in gestation, even by elephantine standards, though it is not easy to build castles when there are only straws in the wind" — was designed for the protection of the public. That had already been achieved on a voluntary basis through the Committee on Safety of Drugs, and it was a great tribute to the industry that it had been carried out for so long and so satisfactorily on a voluntary basis. The

Health Services and Public Health Act (Sir Arnold said it had been known in the department as the "Miscellaneous" Bill) illustrated how suspicions could be aroused by innocent intentions. In a reference to section 29 (which allows the Minister to manufacture to a greater extent than required for the Service), he said he had been told that he could be nationalising the industry by the back door — anything could be manufactured in a hospital dispensary. "I thought of some of the hospital dispensaries and some of the pharmaceutical works I've seen and that just did not seem to add up", said Sir Arnold. Lightheartedly, he said he had seen himself as managing director of N.H.S. Pharmaceuticals, Ltd. (or Inc.).

Pharmacists In Health Centres

In the Act there was also provision for pharmacists to practise in health centres, and they were put on the same footing as other professions in those centres. In due course the Ministry would want to discuss with the profession the way in which the provision should be carried out. "This is intended as a means of helping the Service, not as a means of competition to those engaged in retail business."

Sir Arnold went on to praise the export achievements of the pharmaceutical industry, which had played, he said, an important part in Britain's balance of payments. Referring to the history of the Conference, he said he understood that more than 2,000 papers had been presented to it, and he was sure that they must have reflected the changing scenes over more than a century. The Conference gave an opportunity for pharmacists, both from Britain and abroad, to meet. Sir Arnold concluded with a tribute to Mr. Burlinson (Conference chairman) and his home city of Manchester, with which he himself had had long connections.

In reply, Mr. BURLINSON welcomed the many overseas guests, who came from Australia, Holland, Belgium, Denmark, Ibadan, New Zealand, Switzerland, and the United States. He went on to review the five Conference meetings that had been held in Birmingham, the first only two years after the first Conference in 1863. It had

been a two-day affair and one of its features had been the demonstration by a Mr. Thonger, whose grandson was present and a member of the 1968 organising committee, of a label for the prevention of poisonings. Twenty-one years later the president had been Thomas Greenish, father of H. G. Greenish ("one of the greatest pharmacognosists of all time"). Greenish had advocated in his paper the publication of a volume of formulas that could be used by the pharmacists (most were secret remedies at the time) That was the precursor of the British Pharmaceutical Codex, first published in 1907. The third Birmingham Conference meeting in 1906 had been chaired by Mr. Naylor, and among the broad pat-

tern of papers had been one by Mr. Liversage reporting on testing of drugs in the Birmingham district. Thus the Birmingham testing scheme was actually well under way even in 1906. The fourth meeting, in 1939, had, said Mr. Burlinson, been his first as a member.

Coming to the present Conference, Mr. Burlinson said he had listened with admiration to the young pharmacists. So long as such young men were coming along, the viability of the Conference was assured. Mr. Burlinson wondered what sort of pharmacy would be practised when the Conference did return to the city. He was sure that patient research would be as much the cornerstone as it had always been.

SOCIAL EVENTS OF THE WEEK

Academic Reception

Conference members were received by Mr. L. K. Stretch, pro-vice-chancellor, University of Aston in Birmingham and Mr. and Mrs. H. Burlinson at the academic reception in the Great Hall of the University on Monday evening. In addition to dancing to music provided by Harry Engleman's octet, guests were amused by the antics of their colleagues entering and leaving a series of continuously moving lifts. After an excellent buffet meal guests were entertained by Ian Campbell and his Folk Group, who encouraged audience participation.

Civic Reception

The civic reception was held in the banqueting room at the Council House on Tuesday evening, when the Lord Mayor of Birmingham (Alderman Charles V. G. Simpson), Lady Mayoress, Mr. and Mrs. Burlinson and Mr. and Mrs. Howells received the guests. Frank Carter Players provided the music for dancing. Guests were able to wander round the various galleries and see collections of silver, pottery and paintings. Entertainment was provided by members of the National Operatic and Dramatic Society.

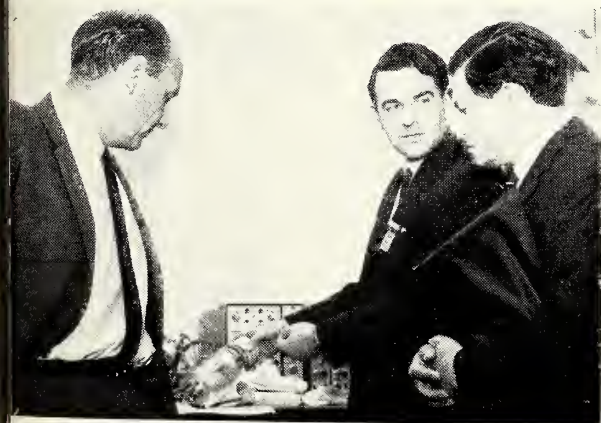
Ladies Visit Coventry

A lovely afternoon, a visit to one of the most interesting buildings in the world, and tea at one of Europe's most

up-to-date hotels combined to make Monday afternoon's ladies' excursion a memorable occasion. A visit to Coventry Cathedral should not be missed; this Conference party was given the services of competent guides and, whatever the impact of the edifice itself, its sheer uniqueness could not fail to impress. Tea at the Leofric Hotel completed the afternoon and, so great was the demand for the excursion, that a second visit was arranged for Wednesday.

Conference Excursion

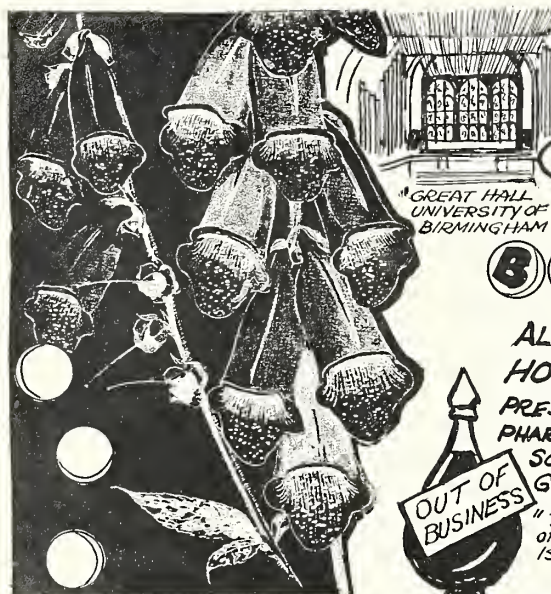
On Thursday afternoon Conference members relaxed while they were transported by coach through the hill country to the west and south west of Birmingham. Eleven coaches left the Top Rank suite after lunch, travelling to Quinton and the Halesowen by-pass to Hagley at the foot of the Clent Hills. After passing through the carpet manufacturing centre of Kidderminster the River Severn was crossed at Bewdley by the bridge designed by Thomas Telford and completed in 1801. After climbing out of the severn valley and passing through Cleobury Mortimer a short stop was made on Clew Hill to allow the excursionists to admire the view. After a short run to Ludlow a second stop was made to enable visits to be made to the castle or to the 15th century church of St. Laurence. From Ludlow the route continued through



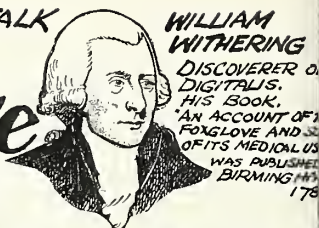
A LOOK ROUND THE DEPARTMENT: Professor W. C. Bowman (University of Strathclyde), Dr. P. S. J. Spencer (senior lecturer in pharmacy, University of Aston) and Dr. G. S. Cox, Aberdeen, in the department of pharmacy at Aston.



EXCURSION STOP: Mr. A. Pirnie, Mrs. M. T. Morris, Mr. and Mrs. H. S. Morley, Mrs. C. E. Pirnie, Miss D. E. Jager and Mr. A. G. Morris pictured during a stop on the Conference excursion to admire the views from Clew Hill.



THERE WAS TABLET TALK at The *Foxglove* Conference



WILLIAM WITHERING
DISCOVERER OF
DIGITALIS.
HIS BOOK,
"AN ACCOUNT OF
FOXGLOVE AND
OF ITS MEDICAL USES"
WAS PUBLISHED
IN BIRMINGHAM
1784

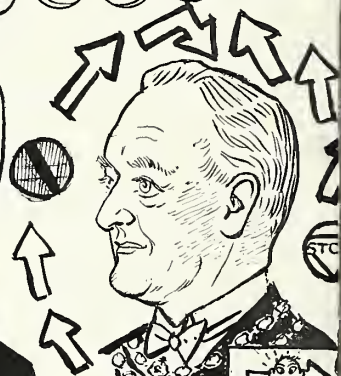
BIRMINGHAM

SEPTEMBER
9th 13th 1966

ALBERT HOWELLS

PRESIDENT OF
PHARMACEUTICAL
SOCIETY OF
G.T. BRITAIN

"THE RATE
OF CLOSURE IS,
IS ACCELERATING"



**THE LORD
MAYOR OF
BIRMINGHAM**
"NOT TO PRE-
EGRESS BUT
STOP YOU GET
OU"

HARRY BURLINSON
CHAIRMAN
OF THE
CONFERENCE

"THE
EVOLUTION OF
THE COMPRESSED
TABLET"

**SIR ERIC
CLAYSON**

SPECIAL
CONFERENCE
EDITIONS:
HE SHOWED
US THE
WORKS
WELL SERVED
-HOWELLS

**SIR ARNOLD
FRANCE, K.C.B.**
PERMANENT
SECRETARY M.O.H.

INLAND
REVENUE

GOODBYE
TO M.O.H.

"I HAVE BEEN
SENT OFF TO THE
INLAND REVENUE"



CANON
BRYAN GREEN
RECTOR OF
BIRMINGHAM

Distinguished

Guests

The Birmingham Post



**DESMOND
LEWIS**

SECRETARY
PHARMACEUTICAL
SOCIETY

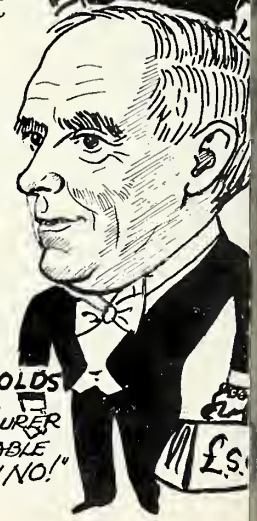
"THE EFFECT OF
THE DICKSON
JUDGMENT ON THE
PROFESSION OF
PHARMACY"



GERRY WALKER
LOCAL
CHAIRMAN
"A MAN WITH
A FUCHSIA"



MRS. WALKER
CHAIRMAN
LADIES
COMMITTEE



F.J. REYNOLDS
LOCAL
TREASURER
"I AM ABLE
TO SAY NO!"

£s.

The Foxglove Conference

cont'd





CONFERENCE EXCURSION: Having lunched at the Top Rank suite, Conference members board the coaches for their tour of Shropshire, Herefordshire and Worcestershire.



AT LUDLOW CASTLE: Conference excursionists take advantage of the sunshine during a brief visit to Ludlow Castle.

Leominster, Hope-under-Dinmore, Burley Gate and Newtown to Ledbury with its old market hall and half-timbered buildings. The road then climbed up to the summit of the Malvern Hills and dropped again to Malvern where the party was welcomed to tea at the Winter Gardens by the mayor of the town. The return run to Birmingham was made via Upton-on-Severn. The whole journey was made in fine weather and each coach was accompanied by hosts from Birmingham who pointed out features of interest on the route and kept excursionists well provided with refreshments.

Tour of Warwickshire Villages

On Wednesday morning, leaving industrial Birmingham behind and passing through Bournville village, the tour proceeded to Henley in Arden, a quaint old market town with a wealth of black and white half-timbered houses, notably the Guildhall and the White Swan Inn. Through Brearley and Snetterfield, the tour continued to Hampton Lucy with its most impressive church. After passing Charlecote Park, where tradition has it that Shakespeare poached in his early years, and where fallow deer were clearly visible, a halt was made at Charlecote Pheasant restaurant for coffee. Time permitted a quick look round the pottery shop but not a visit to the bird gar-

dens. The return journey was via Warwick, passing St. Mary's Church with its Gothic tower and a glimpse of Lord Leycester's Hospital, through Guy's Cliffe and on to Kenilworth, its new shopping centre contrasting with its castle—now mainly a ruin. The return journey lay past Birmingham's airport.

Ragley Hall

Those who joined the conference excursion to Ragley Hall on Wednesday afternoon were taken through pretty country overlooking the Cotswold Hills, passing Coughton Court, home of the Throckmorton family, where the Gunpowder plot is said to have been hatched, and the little market town of Alcester, with medieval timber-framed buildings, its old malt house dating back to 1500. Ragley Hall, home of the eighth Marquess of Hertford, has belonged to his family since it was built in 1680. Financial aid from the Government is enabling a programme of interior redecoration and renovation of furnishings to be carried out. Among works of art at the house outstanding are the display of silver and silver gilt in the great dining room and the china displayed in the china closet room and throughout the rest of the house. The family's favourite room, the library, contains about 10,000 books; a further

20,000 are in other rooms. A feature of the tour was the extreme friendliness of the guides, who showed much enthusiasm for their duties and permitted a closer look at many items by those who showed special interest in them, even to the extent of sometimes allowing the exhibits to be handled.

Aston Hall

ONE of the excursions on September 13 was to Aston Hall, which is only about two-and-a-half miles from the centre of Birmingham. The house was built by the Holte family and completed in 1635. While it reflects many of the features of mediaeval and Tudor houses, its ground plan shows the influence of the Italian Renaissance architecture exerted at that time. The Hall has one of the finest staircases to be seen anywhere. The balustrade on the landing shows damage said to have been caused by canon balls during a bombardment by Parliamentarians during the Civil War. The house is furnished in seventeenth- and eighteenth-century style (the period when the Holte family lived there). A Victorian-style bedroom, recalling the occupation by James Watt, and the nurseries roused much interest, but even more curiosity was shown by members of the party in the old kitchen. There were seen an elaborate polished steel spit, the old cooking range, heavy cook-

ing pans and equipment, together with a mortar having a round stone pestle and what one might term the forerunner of the present spin-drier—an old clothes press. All who took part in the excursion felt that much credit should be accorded to the City of Birmingham for the manner in which the house has been maintained. The excursion was one of the last of the week and everyone was appreciative of the efforts made by the local Birmingham committee in arranging such a varied and interesting programme of events during Conference week.

Management Institute's Sherry Party

THE Institute of Pharmacy Management held its Conference sherry party on Thursday evening at the Students' Union. PROFESSOR J. M. ROWSON (president) welcomed about ninety members and guests and commended to them the Institute's aim of bringing the most efficient methods to any of the pharmacy's branches. MR. H. BURLINSON (Conference chairman) responded. MR. A. G. MADGE, who had spoken first, reported another successful year for the Institute, both in development and membership; and gave details of forthcoming events including the fourth annual conference at Stratford-on-Avon on October 13-14. A management course would be held in London, October 21-24. The 1969 study tour would be to the Canaries, November 13-26, and a Norwegian luxury liner had been booked. Further information may be obtained from the secretary of the Institute, 27 Park View, Hatch End, Middlesex.

Women Pharmacists' Sherry Party

On Thursday evening the National Association of Women Pharmacists invited many guests to a sherry party in the Mermaid lounge at which the president (Mrs. I. Z. Elliott) presented to Miss M. A. Burr (a member of Council of the Pharmaceutical Society and former president of the Association) a travel case given in recognition of Miss Burr's many services to the Association. This year, said Mrs. Elliott, Miss Burr had been top of the poll in the Society's Council election and that should inspire members of the Association to feel that that was the sort of achievement women were now



HOSPITAL PHARMACISTS' EVENING: A group of members at the party organised by the Guild of Public Pharmacists at Queen Elizabeth Hospital on Thursday evening. Included are, in the back row, Messrs. R. H. Leach and A. E. Marston, Mrs. J. Leach and Mr. S. Davidson; in the front row, Mrs. and Mr. George Raine, Mrs. A. Marston and Mrs. S. Davidson.

to be expected to attain. Miss Burr, in acknowledging the gift, spoke of the tremendous support the Association had recently had from male pharmacists, and especially from Professor Cook in helping to set up a branch of the Association in Cardiff. She felt strongly that women had an amount of work to do. The Association was a help in keeping them in pharmacy after marriage and of keeping women pharmacists in touch with their colleagues in other organisations for women. Mrs. O. C. Heading presented Mrs. Elliott with a spray of roses in a presentation box.

Hospital Pharmacists' Reception

A reception with full buffet was arranged by the Birmingham Branch of the Guild of Public Pharmacists at the Queen Elizabeth Hospital (Nuffield House) on Thursday evening, September 12. MR. T. FURBER (chairman, Birmingham Branch of the Guild) introduced MR. S. DAVIDSON (a member of the Board of Governors, United

Birmingham Hospitals) who welcomed members and their guests. He referred to the sense of vocation displayed by hospital pharmacists and their staff who could often obtain higher salaries elsewhere. MR. GEORGE RAINE (Guild president) thanked those responsible for arranging the reception, especially Mr. R. H. Leach and The Staff of the Queen Elizabeth hospital.



AN innovation at this year's Conference was that each lady, instead of having to wait for a "surprise" at the banquet, received a present of a silver-leaf brooch and a "housewife" with her registration documents.



PRETASTE OF DELIGHTS TO COME: Mr. B. M. Androlla, Birmingham, Miss C. M. Collis, Wolverhampton, Miss J. M. Walker, Birmingham (daughter of local committee chairman Mr. G. H. Walker) and Mr. M. Shuttleworth, Birmingham, making an early appraisal of the handsome buffet-table display at the Conference ball.



WOMEN PHARMACISTS' PARTY AND PRESENTATIONS: Group photographed in Mermaid lounge. Mrs. O. Heading, Birmingham; Mrs. I. M. Z. Elliott, West Kent (president of the National Association of Women Pharmacists), Mr. H. Burlinson, Manchester (Conference chairman), Miss M. A. Burr, Nottingham (a past-President of the Association and a member of Council of the Pharmaceutical Society), who was presented with a travel case, and Mrs. A. Greenwood, Blackpool.

BRITISH PHARMACEUTICAL CONFERENCE 105th MEETING, BIRMINGHAM 1968

CLOSING SESSION

THE 1969 Conference is being held in Belfast from September 1 under the chairmanship of Dr. E. F. Hersant. It was announced during the closing session of the Birmingham Conference meeting on September 13.

MR. N. KEITH, Victoria, Australia, proposing a vote of thanks to the local Committee, said he and his colleagues were "staggering under the weight of hospitality they had received." He had noted the proposals to register medicines under the new Government Bill. In Victoria similar legislation had been operating for ten years and as a chemist in business he had not found it to be to the disadvantage of pharmacy. They had also in Australia some experience of decimal currency and metrication and Australian pharmacists would be willing to advise their U.K. colleagues in such matters. The success of the Conference had been due to the work of the local Committee and he wholeheartedly proposed a vote of thanks to them. The Conference chairman (MR. H. BURLINSON) presented to the chairman of the Birmingham and District Branch of the Pharmaceutical Society a memento, in the form of a gavel for the Branch from the Bell and Hill Fund and gifts of silver from members of the Conference to the officers of the Conference local Committee. Mr. S. Walker (chairman) and Mrs. Walker received a tea service, Mr. F. J. Reynolds (treasurer) and his wife a candelabra, Mr. C. McArdle (secretary) and his wife warming dishes, and Mr. and Mrs. Crees a salver.

Treasurer's Report

When PROFESSOR J. M. ROWSON moved adoption of the treasurer's report and balance sheet at December 31, 1967, MR. D. SPARSHOTT asked for an explanation for the item "Debtors £910 3s. 6d." Professor Rowson indicated it was a matter of book-keeping. He thought it was the balance of the debts "in the expenditure account".

MR. W. H. BOYD, inviting members

of the Conference to meet in Belfast in 1969, said he and his colleagues would endeavour to uphold and enhance the reputation of the Conference. He stressed that there was a problem concerning travel arrangements. The Conference had been arranged on a Bank holiday and it was therefore essential that members should make their reservations as early as possible.

MR. BURLINSON referred to an item in the annual report of the Executive Committee concerning the revised constitution and arrangements of the Conference, in which the Executive was reported as awaiting written detailed proposals from the Council of the Pharmaceutical Society. Whatever change might formally come about, he said, the Executive was firmly of the opinion that nothing must be done to endanger the present high standard of the scientific side of the Conference. Nor should any reorganisation result in the complete separation of the scientific activities from the professional and social aspects. It was with those aims in view that the discussions had taken place between the officers of the Con-

ference and of the Pharmaceutical Society of Great Britain, and all had felt that the matter was of such importance that mature consideration needed to be given to all aspects. It was hoped that mutually agreed plans would be submitted to the Conference meeting in Belfast. Proposing the adoption of the annual report, MR. H. GRAINGER, Strasbourg, France, said he was relieved to note that there was agreement that the general spirit of the Conference would not be disturbed.

Messrs. G. T. M. David, D. N. Gore and F. H. Oliver retired as members of the Executive at the end of the meeting, and in accordance with the rules, Mr. H. G. Rolfe ceased to serve on the Executive as past-chairman, thus severing a connection of twenty-one years, first as general secretary, 1947-53 then as treasurer until 1963, as chairman 1962-63, and as past-chairman until 1968. The Executive nominated the following officers for 1968-69: *Chairman:* Dr. E. F. Hersant; *Treasurer:* Professor J. M. Rowson; *General secretary:* Mr. K. A. Lees. The following were nominated for election as members of the Executive: Drs. W. R. L. Brown, A. L. Glenn, and Professor N. J. Harper.



THEIR TURN TO RELAX: Mrs. and Mr. A. S. Smith, Miss M. G. Parkinson, Mrs. and Mr. E. Aspin and Mrs. J. M. Alderson, all from Blackpool, and all active in last year's Conference meeting as members of the local committee.



A TRIO OF "REGULARS": Professor and Mrs. E. Shotton, London, with Mr. J. R. Phillips, Bournemouth.



BEING RECEIVED: Mr. and Mrs. L. S. Short, Wimborne, Dorset, are welcomed by the Conference chairman and Mrs. Burlinson.



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The Conference and its Future

It appears to many British Pharmaceutical Conference members somewhat incongruous that, although the annual meetings of the Conference continue to be successful alike as scientific congress, social gathering and professional forum, its future is the subject of so much argument and debate. Were the Conference a palpable failure, or even a declining force, then discussion, debate and acrimony might well be expected. But the Birmingham Conference meeting just concluded attracted over 700 members, including a large foreign contingent. It would thus seem to an observer that the Conference formula, achieved by successive modifications over the years, of blending the sciences with social activities and political debates, has proved an eminently satisfactory arrangement. An attempted change at Blackpool in 1967, when the Conference excursion was omitted, brought a sharp reaction from Conference members, who demonstrated overwhelmingly their disagreement with the abandonment of the outing and demanded its reinstatement in the Birmingham arrangements.

The crux of the problem, no doubt, is that, while the Pharmaceutical Society of Great Britain is involved in the major capital outlay, the controlling body is the Conference Executive. What seems to be in question is the "balance of power." Perhaps, too, the different approach of the two bodies may tend to engender conflict. In 1963 the Conference chairman (Mr. H. G. Rolfe), in his address at the Centenary meeting of the Conference, referred to the fact that the Conference Executive had considered in January 1922 a letter from the secretary of the Society (Sir William Glyn-Jones), referring to a recommendation which the Council had adopted at the instance of its Organisation Committee. The recommendation was that "the Society shall organise at least once a year a national conference, not necessarily meeting in the same place each year, and the Conference shall consist of delegates officially appointed to represent branches of the Society. The Conference shall deal with the science and practice of pharmacy and shall be concerned with the general advancement of the objects of the Pharmaceutical Society." The letter also indicated that the development was bound to have a bearing on the work of the British Pharmaceutical Conference, and suggested that the subject should be discussed between representatives of the Executive and of the Council.

At the closing session of the 1967 Conference meeting at Blackpool the annual report by the Conference Executive

disclosed that discussions were still proceeding between the officers of the Conference and of the Pharmaceutical Society concerning the constitution and general arrangements for the Conference. It was also stated at that time that the Conference officers were awaiting concrete proposals from the Society and that it was hoped to present a statement and proposals at the 1968 meeting.

The scientific basis of the Conference appears to have been always reasonably satisfactory. During the past few years more papers have been received than have been accepted, indicating a degree of competition, or the strict adherence to a maintained standard, that cannot but be advantageous. The Conference lecture has been an eminently successful introduction — so high, indeed, have been the standards achieved that they may make the choice of future speakers increasingly difficult. Professor A. Korner's paper at Birmingham was an outstanding example of an expert's handling of a technical subject in a pre-eminently lucid manner that drew applause from those privileged to be present.

The Pharmaceutical Society's special contributions have been the professional and symposium sessions. Not always have they been, perhaps, so clearly successful as this year, but urgent topical subjects are not always so readily at hand. The Council is, of course, also responsible for certain printing costs and, according to Conference Executive annual reports, "for the provision of secretarial and other facilities." In addition, the Council makes financial arrangements that enable representatives to attend the Conference from the various branches of the Society. It has been reported that the financial involvement of the Society is in the region of £6-7,000 per Conference meeting, and without such a substantial contribution the Conference could hardly continue to exist in its present form. Previous Councils of the Pharmaceutical Society have felt that, being so involved financially, the Society should have a more direct say in its organisation. Yet if rumour is correct — and the last Conference Executive annual report appears to confirm it — little thought had been given to the matter by the Council this year until a meeting was held during Conference week itself. Confusion prevailed at that meeting, it is believed, apparently because (a) of views newly brought forward, (b) of second thoughts by some members, and (c) of differing appraisals of the current position.

Throughout its 105 years the Conference has shown a continuous evolution and (quoting again from Mr. Rolfe's Centenary address) "provided members are sufficiently far-sighted to allow the Conference to evolve, and keep pace with changes in the methods of presenting and discussing scientific advances in the future, there would seem no good reason why it should not be just as successful over the next century as it has been in the past."

We believe that the true soul and purpose of the Conference lies essentially in its scientific aspects, and the present arrangement, given some goodwill by both Council and Executive, and the present enthusiasm of Conference members, could and should continue to provide the basis for improved internal relations within the membership and for enhanced external relationships with the public. Scientific pharmacy is a subject impinging on many disciplines, and one to which there is much to be contributed by recognised authorities who are non-pharmacists but have become engaged in

pharmaceutical processes or industries. The present Conference Executive machinery enables such contributions to be easily made. To exchange that scientific foundation for something that could too easily become "politically loaded," or subject to politically originating changes of Council membership, would in our view represent not an evolution to something still more fruitful but a threat to the very life and health of an institution that has shown itself active and vital.

Federation's Widening Range

It was only to be expected that, at the International Pharmaceutical Federation's General Assembly in Hamburg recently (see *C. & D.*, September 14, p. 249) emphasis should be laid on the Federation's future, both within its own sphere of organisation and in its relationship to the Asian and Pan-American and World Health Organisations. It is inevitable that pharmacy will one day be organised on a world-wide basis. The 1968 Assembly and Congress marked an important step in that direction. Not only were thirty-eight countries represented, but among them were such countries as Japan, the Philippines, Argentina, Chile, India, Canada, and the United States, demonstrating that the organisation is no longer simply European, but has associations that now embrace the world itself. That was recognised officially by the president (Dr. Winters) in his final speech to the Assembly. The Federation is now on the road towards a wider field of activity, which will eventually cover, one hopes, pharmacists from all nations.

The presence of the director of pharmaceutical services of the World Health Organisation also showed, as was emphasised in many of the discussions, the increasing importance laid upon close collaboration of the Federation with W.H.O.

The report of the commission on future activities of the Federation was given the great importance due to it, as was shown by the extremely full attendance at the session devoted to the report and by the number of official delegates who took part in the debate that followed Sir Hugh Linstead's introductory remarks. The importance attached to a fuller representation of the practising pharmacist was stressed by many speakers, and the unequivocal remarks addressed to the Assembly by the president of the Pharmaceutical Society of Great Britain received considerable support both during the debate and in subsequent private discussions.

That there are problems in devising a formula that will provide the greatest benefit from a section devoted to general-practice pharmacy became obvious, but it was equally obvious that it is the wish of the Assembly that such a formula should be found so soon as possible.

Reorganisation of the Scientific Section was also closely debated, and it would again seem that its present organisation needs to be substantially modified.

Realisation that changes and modifications in the Federation as it has been known, and in the light of the closer collaboration between countries that a truly international organisation requires, was perhaps the most stimulating experience among those who were present at the twenty-second General Assembly. When the next General Assembly takes place in Geneva in 1970, the extent to which the Federation's officials have taken note of the sentiments expressed at Hamburg will be studied with close attention.

NEW BOOKS

Creative Pricing

ELIZABETH MARTING (editor). *American Management Association, Inc.* (agents: *Bailey Bros. & Swinfen, Ltd.*, Warner House, Folkestone, Kent). 9½ x 6½ in. Pp. 234. 90s.

NINETEEN executives and specialists have contributed chapters on pricing policy over a broad field including pricing by distribution method (wholesale and retail level), by situation (new products), and by product type (consumer, industrial, or service).

A Management Role for Quality Control

JOHN T. HAGAN. *American Management Association, Inc.* (agents: *Bailey Bros. & Swinfen, Ltd.*, Warner House, Folkestone, Kent.) 9½ x 6½ in. Pp. 248. 85s. 6d.

MOST if not all pharmaceutical manufacturers are alive to the necessity of having a quality control department. Whether or not the finance allotted to such a department by the board is adequate is another matter. In the competitive conditions ruling today products must live up to the claim made for them. This book provides information on what the industry as a whole can expect from the quality control organisation, namely protection and enhancement of the company's image; maintenance of a steady output of acceptable products and the cutting of unforeseen costs through efficient purchases from vendors.

Scientiae Pharmaceuticae Volumes I and II

O. HANC and J. HUBIK (editors). *Butterworth & Co. (Publishers), Ltd.*, 88 Kingsway, London, W.C.2. 9 x 6 in. Volume I pp. 496. Volume II pp. 639. 210s.

THE two volumes record proceedings at the twenty-fifth congress of Pharmaceutical Sciences held in Prague, Czechoslovakia, in 1965. Volume I covers the symposium on cardioglycosides and is divided into two sections—synthetic chemistry and medicinal plants. Volume II deals with the symposium on drug identification and comprises three sections—analytical chemistry, galenic pharmacy and biology. Each paper is published in the language in which it was presented and there is similar diversity in the discussions. The volumes are both provided with author and subject indexes.

World Medical Periodicals (third edition supplement)

World Medical Association, 10 Columbus Circle, New York, 19, N.Y., U.S.A. (in Britain from the *British Medical Journal*, B.M.A. House, Tavistock Square, London, W.C.1.). 9½ x 6 in. Pp. xi + 68. 20s. (post free)

THIS supplement adds 869 titles to the list of 5,806 titles of medical periodicals given in the third edition (reprinting of which coincides with publication of the supplement). As before, the title of each journal, alphabetically arranged, is followed by the name and address of the publisher, the number of issues per year, and the abbreviated title for reference purposes. It is because there is still no international agreement on title abbreviations that a supplement rather than a fourth edition, has been produced—it being hoped that a "breathing space" will be provided for agreement to be reached. Apart from purely medical periodicals, those dealing with pharmacy, odontology and veterinary medicine are included.

Bibliography of Pharmaceutical Reference Literature

MAGDA PASZTOR and JENNY HOPKINS, A.L.A., *Pharmaceutical Press*, 17 Bloomsbury Square, London, W.C.1. 8½ x 5½ in. Pp. viii + 167. Paper back. 25s. (post free)

THE authors (librarian and assistant librarian respectively) of the School of Pharmacy, University of London) have compiled a useful list of reference sources relating to pharmaceuticals, pharmacology, pharmacognosy, pharmaceutical chemistry, biological sciences and chemical engineering. They have not attempted to cover cosmeticology, perfumery, veterinary pharmacy or the history of pharmacy, and the works are mainly those published in the English language. Nor are periodicals and textbooks included. The list of reference sources published from 1960 to March this year remains, however, formidable. Arrangement is according to type of material—dictionaries, directories, etc.—with subdivisions for subject or country of origin. Author, editor, publisher, date and place of publication, number of pages and an indication of content, are given for each work.

BRITISH PHARMACEUTICAL CONFERENCE 105th MEETING BIRMINGHAM 1968

CONFERENCE LECTURE

Protein Synthesis and the Genetic Code

RECENT FUNDAMENTAL ADVANCES IN KNOWLEDGE

A. KORNER (Professor of biochemistry, University of Sussex)

ABSTRACT

A FERTILISED human egg does not look very different from a fertilised egg of many other species, yet it contains not only the information which enables it to develop into a human and not some other animal but sufficient information to make a specific individual with his idiosyncratic characteristics. The revolution in biology that has occurred in the past fifteen years has, in essence, been in understanding the way in which this information is contained in the cell and in the way that information is translated into the enzymes and other proteins that determine what that cell will become.

Causes

Like other revolutions this one had many causes. Work by scientists in many biological disciplines had, by 1950, established several ideas that were fundamental to the revolution.

1. Enzymes are specific, that is to say, they will only react with one, or a few, kinds of substrate molecules.
2. The characteristics of a cell and, therefore, the organism, depend upon the enzymes and other proteins that it contains.
3. The genetic information of cells is contained in its DNA, and therefore DNA controls the kinds of enzymes synthesised by a cell.

These fundamental ideas were supplemented in the early 1950s by two most important advances, which were fundamental to the revolution. One of them was the publication by Sanger of the results of his heroic studies on the linear order in which amino acids are put together in the protein insulin. That particular piece of work showed that the primary sequence of each protein is a unique characteristic. Proteins are composed of twenty different kinds of amino acids, which can be joined linearly in various orders to make vast numbers of unique proteins. Sanger also showed that insulin molecules from different species differed in primary sequence. This emphasised that DNA controls the order in which amino acids are assembled into protein chains.

The second great idea was provided by the imaginative jump of Watson and Crick in building a plausible model, based on the chemical data of Chargaff and the x-ray crystallography data of Franklin and Wilkins, of the structure of DNA. Their model of the DNA structure, which has stood up to all the experimental tests that have been devised, suggested how DNA could reproduce itself and how mutations could occur.

DNA consists of two very long anti-parallel chains of deoxyribosephosphate molecules joined together. Four different types of nitrogen base (adenine,

guanine, cytosine and thymine) stick out from the two backbone structures and are matched by base-pairing. The structure resembles a ladder, twisted into a coil. During DNA replication the two strands part and each makes a copy of the strand which it has lost so as to produce two copies of the original parent, one for each daughter cell. If one of the bases in DNA is altered by mutation, then, during replication, the

in that DNA. This information is then translated in to the messenger RNA molecules which are made in the image of one of the strands of DNA template but with ribose in place of deoxy-ribose and one base in DNA (thymine) replaced by uracil. The coding problem then was to determine how a four-letter nucleic acid code was translated into a twenty-letter protein code.

The only acceptable mechanism for pattern assembly in the cell is to imagine a template on to which the amino acids fit in a specific sequence which then join together to form a specific protein. Since proteins are large the template itself must be a macromolecule and evidence was soon forthcoming that the template was RNA — the m-RNA I have already mentioned.

Adapter Molecules

It is impossible to fold or twist a model of an RNA template so as to provide twenty specific binding sites for twenty different amino acids, so it was suggested that some adaptor molecules must be present to bind to specific sites on the template m-RNA so as to bring each amino acid into line in the correct order. These adaptors, which were soon detected in cells, are known as transfer RNA molecules (t-RNA) and are specific for each amino acid. Each amino acid is tagged on to one end of its specific transfer RNA molecule by an enzyme in the cell-sap. It can be shown that each transfer RNA molecule contains in it a structure which can search out, join to and match a specific site on the messenger RNA so placing its amino acid in position to be joined to the growing protein.

Protein synthesis in cells occurs on the ribosomes, small ribonucleo-protein particles that can be seen in electron-micrographs of cells. The messenger RNA attaches itself to a ribosome. The specific binding site on a transfer RNA molecule, carrying the first amino acid of the protein to be synthesised, joins to the small portion of the messenger RNA which is attached to a special site on the ribosome. The second t-RNA, carrying the second amino acid of the protein being synthesised, now comes into place on the messenger RNA next to the first t-RNA. The two first amino acids of the protein being synthesised, carried by their two t-RNA molecules, are near each other on the ribosome. The first amino acid now frees itself from its t-RNA and attaches itself to the second amino acid which is still attached to the second t-RNA. The first t-RNA, having done its job, is now released from the ribosome. The ribosome now moves relative to the message so that the second t-RNA is now in the position on the ribosome which had been occupied by the first



Professor Korner

unaltered strand will reproduce unaltered DNA while the altered strand will produce a DNA with an alteration in both strands. This mechanism can explain the phenomena of mutation and evolution.

Apparent Paradox

DNA then, contains the information to make proteins yet it is known that proteins can be made when DNA is absent from the cells. This apparent paradox was solved by the demonstration that DNA first makes a single-stranded polymer ribose-nucleic acid (RNA) which contains the genetic information and that this RNA — called messenger RNA (m-RNA) — is used to make a protein according to the information which was contained in the gene. RNA has a structure similar to a single strand of DNA: it is a long string of ribose-phosphate molecules with four different kinds of base sticking out of it. The bases are arginine (A), guanine (G), cytosine (C) and uracil (U).

The only way in which information could be stored in DNA is by the linear arrangement of the four different bases

t-RNA. The third amino acid of the protein, on its specific t-RNA, now attaches itself to the m-RNA next to the second t-RNA carrying the dipeptide. The dipeptide detaches itself from its t-RNA carrier and joins on to the third amino acid. This process is repeated until the peptide is complete. This hypothesis about protein synthesis assumes that the protein is built up from one end, the amino terminal end, and this supposition has strong experimental support.

Now let us consider the relationship of the four bases in the messenger RNA which can be called A, G, U and C and the twenty amino acids of proteins which we can call 1, 2, 3 . . . 20. The first question we need to settle is the coding ratio, that is to say, how many bases in the m-RNA are needed to code each amino acid. Clearly if the coding ratio were one (that is if base A in m-RNA means amino acid 1 and so on) only four amino acids could be coded. If the coding ratio were two (that is AA signifies amino acid 1, AG signifies 2, GA signifies 3, etc.), the four bases could give sixteen codons. Still this is insufficient to code for the twenty amino acids in proteins, so the coding ratio must be at least three (e.g. AAA codes for 1, AAG for 2, AGA for 3, GAA for 4, etc.). This gives sixty-four possible triplet codons from the four bases in messenger RNA. A genetic experiment has shown that the coding ratio is indeed 3.

The first experimental finding which related codon triplets to amino acids was made by Nirenberg in 1961 and later he discovered a method of determining codons which fixed the order of bases in the triplet. He found that if he synthesised triplets of bases they would stick specific transfer RNA molecules to ribosomes to form a complex which would remain on a filter. He showed that the correct t-RNA molecule was needed for each specific trip-

let: the wrong one would not stick to ribosomes and would go through the filter. Using this method he was able to identify or confirm other codon triplets from the amino acids and also to assign the order of nucleotides in the codons for the amino acids.

A different method was devised by Khorana. He was able to synthesise artificial RNA molecules with known repeating sequences. For example, he made a polymer of repeating AU sequence (AUUAU . . .). The only triplet codons in this message are AUA and UAU so it should only allow the incorporation of the two amino acids coded for by these two triplets. He then tested this polymer for its ability to stimulate protein synthesis with each of the amino acids and found that only two amino acids, isoleucine and leucine, were incorporated into a polypeptide of repeating dipeptides. Similarly, with a polymer of three repeating nucleotides he found only three amino acids were incorporated into a polypeptide of repeating tripeptides. This method gave the order of the bases in the codons. By these, and other methods the codons for each of the twenty amino acids were determined.

Many of the amino acids have more than one codon assigned to them: the code is said to be degenerate. The code is not ambiguous — no one triplet will code for more than one amino acid — but some amino acids can be coded for by more than one triplet.

Recent work has been concerned with the punctuation marks in the code. There is evidence that some messenger RNA molecules code for several proteins along their length. In those cases it is obviously necessary for there to be a signal which means "stop making protein number one here" and, possibly, a second signal which means "start protein number two here." Of the sixty-four triplets, sixty-one have been assigned as codons for amino acids.

Three, UAA, UAG and UGA, we found not to code for amino acids and recent evidence suggests strongly that these codons act as full-stops in the code causing the release of finished proteins. There is also strong evidence that in bacteria, at least, all proteins are started off by the same modified amino acid, formyl methionine. This substance seems to act as the cap letter at the beginning of a chain.

Recently, the nucleotide sequence of some transfer RNA molecules, which carry amino acids to the template, has been determined and it has been shown that in each case the anti-codon, a portion of the molecule that selects and matches the coding site on the messenger RNA, is in the same position on the t-RNA molecule. The three bases in this position base-pair with the triplets assigned to the amino acids as their coding triplets. This result offers strong confirmation indeed of the details of the genetic code.

One final, and fascinating, point about the code. The evidence available so far suggests that the genetic code is universal — that the codons are translated by the same amino acids in all species so far examined.



SORTING THINGS OUT: Mr. S. Blum, London, and Mr. K. A. Lees, Greenford, members of the Pharmaceutical Society's Council since May and August respectively.



NEWSPAPER INTEREST: A programmed visit to the new headquarters building of the "Birmingham Post and Mail," one of the most modern Europe, attracted a high attendance of Conference visitors. The paper produced a special Conference issue each day.

BRITISH PHARMACEUTICAL CONFERENCE 105th MEETING BIRMINGHAM 1968

HISTORY OF PHARMACY SESSION

THE Urdang medal for 1968 was presented to Mr. L. G. Matthews at a meeting of the British Society for the History of Pharmacy on Tuesday of conference week. Making the presentation as acting director of the American Institute of the History of Pharmacy, 1967-68, the chairman (DR. M. P. EARLES) recalled that the award had been founded by the Institute in honour of the late George Urdang. In 1941 Urdang, with Dr. E. Kremers (dean, School of Pharmacy, University of Wisconsin), had founded the Institute. In 1947 the University had appointed him professor of the history of pharmacy in the pharmacy school. He had been honoured by many organisations and institutions and prominent in the display of awards in the Urdang room of the University of Wisconsin, was the certificate of honorary membership of the Pharmaceutical Society of Great Britain.

The Urdang Medal, said Dr. Earles, was awarded in recognition of distinguished writing in the field of pharmaceutical history. Selection was made by an evaluating committee of the International Academy of the History of Pharmacy. The medal was last awarded in 1964 (see also p. 274).

By way of thanks, MR. MATTHEWS recalled that he had begun writing in 1940 and had received much encouragement from Mr. Howard Bayles, who had been for a long time *X-ray*er of THE CHEMIST AND DRUGGIST. Mr. Bayles had helped set up the Pharmaceutical Society's Committee on the History of Pharmacy in 1962 and had himself been a profound researcher. Another friend had been William Kirkby of Manchester, whose "fancy alighted on the unusual." Mr. Matthews said his connection with Urdang went back to 1942 when he had written congratulating Urdang on the setting up of the American Institute. He would treasure the medal greatly.



Dr. Earles presents the medal to Mr. Matthews.

FIRST paper was given by PROFESSOR G. R. PATERSON (professor of pharmaceutical chemistry, University of Toronto, and director of the Canadian Academy for the History of Pharmacy). Speaking on "Alkaloids — their Discovery and its Significance," Professor Paterson outlined the various definitions for "alkaloid" since the term was coined in 1818. He continued by describing work on the isolation and description of opium and cinchona



Mr. J. H. Crellin, Mr. S. Fox and Professor G. R. Paterson

alkaloids, in which much of the early history of alkaloids was to be found. The speaker in particular showed how the need to manufacture alkaloids had resulted in the setting up of pharmaceutical companies and had stimulated research into analytical procedures, synthesis (of analogues with better therapeutic indices), chemical structure elucidation methods and pharmacology (and into problems of drug abuse). He felt that the discovery of, and search for, alkaloids had led to better, more specific drugs.

In discussion, DR. T. D. WHITTET, London, referred to the isolation of pilocarpine by A. W. Gerrard (a founder of Cuxson, Gerrard & Co., Ltd.) who had been chief pharmacist at University College Hospital. He also mentioned Dr. A. T. Henry, "one of Britain's greatest experts on alkaloids," who he believed had isolated digoxin.

Birmingham's Scientific History

Second speaker was MR. S. FOX (principal lecturer, City of Birmingham College of Commerce) whose subject was "Science and Medicine in 18th Century Birmingham." He dealt both with pure and applied chemistry and with pharmaceutical developments and outlined the beginnings, in 1765, of Birmingham General Hospital and in 1792 of the Birmingham Dispensary. Among the prominent names were those of Priestley, Joseph Black, James Watt, Roebuck (who had conceived the lead chamber process for sulphuric acid), James Keir, Darwin and William Small. Many had been associated in the "Lunar Society." Of particular pharmaceutical interest was William Withering (1741-99), the son of an apothecary in Wellington, Shropshire, who settled in Birmingham in 1775. Having qualified in medicine and practised in Stafford (where he was associated with the establishment of the Infirmary), he published his "Botanical Arrangement," based on Linnaeus' work but later to contain much original material and to become the definitive work in the field for a century. His most significant and lasting work in medicine was the introduction of digitalis for the treatment of dropsy. His "Account of the Foxglove and some of its Medical Uses" (1785) was the first work to investigate the properties of digitalis scientifically. It recorded 163 cases in which the drug was used. Though Withering

was using it as a diuretic in dropsy he did note the retardation of the pulse it produced. He had, in fact, detected the effects of digitalis from among those of twenty drugs that had been used as a folk remedy in Shropshire.

DR. WHITTET asked whether the speaker had any information on the Birmingham Branch of the General Apothecaries Company, which had branches in London and Liverpool. He possessed one or two of the branch's labels as evidence of its existence but had been unsuccessful in tracing any information on the branch. MR. FOX replied that the branch might have been a development from the Birmingham Dispensary. Assured that Dr. Whittet had information on the approximate date of the company, he said that several Birmingham directories of the period were extant and might supply the date of the branch's formation. MR. S. H. WOODWARD asked whether the Lunar Society and the Royal Society had any connections. MR. FOX replied that a few members of the Lunar Society were members of the Royal Society but it was probable that the Lunar Society was the more serious of the two. The reason that the Lunar Society met at the time of the full moon was not from any maniacal tendencies but because at that time the nights were brighter, giving less scope to foot pads.

Scales and Weights

Final paper of the session "Drug Weighing in Britain — 1700-1900" by J. K. Crellin and J. R. Scott was delivered by MR. CRELLIN. The study was based on the collection of 18th and 19th century scales and weights in the Wellcome Institute. It was primarily concerned with the accuracy of scales and weights at a time when schemes for independent inspection were largely ineffectual or, for apothecaries weights, non-existent. The first Weights and Measures Act had not been passed until 1878 but the early 19th century chemist and druggist if he were careful in his buying could obtain reasonable accuracy. No national standards of weight had been introduced until 1879. Ounce weights in the avoirdupois system had rarely been inspected in the early part of the period covered but grain weights, which were also included in the Imperial system and were used for weighing coins were checked though in the

absence of standards that was largely ineffectual. Most scales were not independently checked till 1889.

Verification stamping of avoirdupois and troy weights in London was important as London stamped weights were used throughout the country. In the early part of the period the Plumbers Company had been a major influence but as brass weights came into use the Founders Company became more important and in 1837 weights stamped at the hall of the company were stated to have circulated throughout the United Kingdom for more than 200 years. From the early 17th century weights stamped at the Founders hall—had also received the City of London stamp at the Guildhall. The City of Westminster had introduced its own stamping in the 1750's. The availability of stamped weights had done nothing, however, to entirely do away with grossly inaccurate weights. It was stated in evidence to a Select Committee in 1814 that some weights were being stamped without ever having been put into a scale pan.

Turning to apothecaries weights Mr. Crellin said that although it was not altogether surprising that the medical and pharmaceutical professions had not been greatly concerned by the lack of checking, that did not mean that they were not interested in accuracy. Their

concern over the inconsistencies in the method of selling liquids and the lack of information as to whether sale was by weight or by volume had led the Edinburgh and Dublin Pharmacopoeias to standardise on weighing.

Of the weights in the Wellcome collection, although about 50 per cent. were inaccurate, errors rarely exceeded 30 per cent. The inaccuracies of early square weights contrasted markedly with that of the circular and lozenge shaped weights introduced by W. T. Avery & Co. in 1847. Despite criticism that the embossed surface would pick up dirt and result in inaccuracy the new weights soon became popular.

Scales in the Wellcome collection on the whole were considerably more accurate than the weights used with them. The usual type used in dispensing in the period considered was the equal arm hand scale.

At the end of the 18th century scales with a "box-end" beam came into use and were considered better than the earlier "swan-neck" type but examination of the Wellcome collection did not support that opinion. Bench scales were strongly recommended for dispensing in 1831 but only began to replace hand scales towards the end of the century.

Despite the inadequacies of the checking system for scales and weights

it could not be denied that a large number of early scales and sets of weights had been sufficiently accurate for their purpose. That was accounted for in several ways. First was the influence of first class manufacturers. There had been no English guild responsible for scales and weights in early times, several trades including blacksmiths and clockmakers having a hand in their production. The labels of many scales made by better manufacturers in the Wellcome collection bore a notice to the effect that regular maintenance would be carried out. The existence of maintenance facilities no doubt had an influence on accuracy. Secondly the conscientiousness of the particular individual responsible for purchasing scales and weights was important. The physician at Guy's Hospital appeared to have been very careful in checking his purchases. Mr. Crellin concluded by saying that although no doubt there had been some inspection of chemist and druggists shops prior to the Weights and Measures Act, 1878, there was no doubt there was need for that measure. The talk was illustrated by slides showing items in the Wellcome collection.

The chairman thanked Mr. Crellin for a "valuable addition to our knowledge of physical pharmacy in this country." Owing to lack of time there was no discussion.

SCIENCE SESSIONS

(Continued from THE CHEMIST AND DRUGGIST, September 14, p. 248)

MR. E. ADAMS next contributed a further paper on crystal violet:—

CRYSTAL VIOLET

Binding by nucleic acids of *Escherichia coli*

E. ADAMS (School of Pharmacy, Portsmouth College of Technology)

ABSORPTION isotherms of DNA and RNA from *E. coli* for crystal violet are sigmoid. Binding of dye was determined (i) by difference in its absorbance before and after addition of nucleic acids and (ii) by measuring the amount of dye dialysing through a membrane containing dye and nucleic acid. pH change over the range 5 to 9 caused no significant change in the degree of binding and the increase in antibacterial activity above pH 8 must be ascribed to other causes.

In the discussion, DR. HUGO suggested that the phenomena reported might be shown by any macromolecules and referred to the specificity of action on DNA of acridine dyes.

MR. R. M. RYE presented:—

ABSORBANCE MEASUREMENTS IN BACTERIOLOGY

R. M. RYE and D. WISEMAN (School of Pharmacy, University of Bradford)

THE relation between absorbance and dry weight of washed cell suspensions and growing cultures of *Escherichia coli* was investigated. An approximate proportionality exists between absorbance and cell concentration in dilutions of a washed cell suspension of *E. coli* in glucose-free medium, whether measured in terms of cell number or total cell mass. Dry weight measurements on samples from exponentially growing cultures after different periods

of growth show that absorbance measurements made on growing cultures are not proportional to total cell mass. A log-log plot of absorbance with the total cell carbon [¹⁴C] content for exponentially growing cultures together with a line of slope 1.12 representing the relation between dry weight and absorbance shows that total cell carbon content increases at the same rate as dry weight. The cell carbon/dry weight ratio thus remains constant during growth and measurements of carbon content can be used as a measure of relative cell mass. It is concluded that suspensions of equal absorbance prepared by harvesting cells from growing cultures of *E. coli* will not necessarily contain the same cell mass, and that the dry weights of suspensions prepared during the early stages of exponential growth will be lower than those of suspensions of the same absorbance prepared from cells harvested at a later time.

PROFESSOR P. H. ELWORTHY, Glasgow, described with diagrams difficulties experienced in interpreting results obtained with the instrument used as reported, and there was discussion of the points he raised.

MR. C. A. WALTON presented the session's final paper:—

WATER-IN-OIL SOLUBILISED VACCINE ADJUVANTS

C. L. J. COLES, J. R. HEPPLER, L. HILTON and C. A. WALTON (Glaxo Laboratories, Ltd., Greenford)

SOLUBILISATION of water and toxoid solutions in oils by non-ionic surface-active agents has been examined. Water-in-oil solubilised adjuvant formulations of vaccines containing *Clostridium welchii* type-D toxoid as

antigen have been tested in laboratory animals. The antitoxin titres in rabbit serum induced by the most successful formulation were as high, fourteen weeks after a single dose, as the peak titres after two doses of a simple aluminium hydroxide adsorbed vaccine. The vaccines are clear and of low viscosity, which facilitates accurate measurement and handling by syringe.

MR. WALTON reported briefly on subsequent trials in a small number of sheep, the animal for which the vaccines were intended. The antibody titres were satisfactory, and the authors indicated the economic advantages of reducing the number of doses required for immunity throughout the animal's life; and the need for smaller doses of antigen—the expensive part of the product. There were, however, small local reactions to vaccination, though in the sheep trials no trace could be found after a few weeks or on slaughter. There was no discussion.

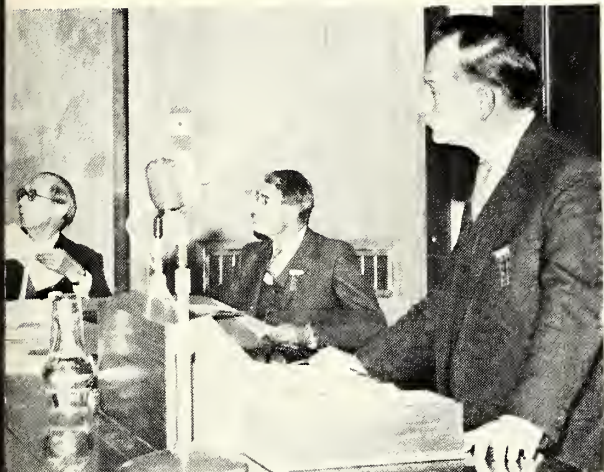
THE concurrent science session of Monday afternoon opened under the chairmanship of PROFESSOR J. B. STENLAKE. It commenced with a short communication on ethylene oxide as an impurity in polyethylene glycol 300 read by MR. P. F. G. BOON:—

POLYETHYLENE GLYCOL 300

An impurity

P. F. G. BOON and A. W. MACE (CIBA Laboratories, Ltd., Horsham)

LARGE losses of active agent were noted after autoclaving or after several days at room temperature in a non-aqueous formulation containing 1 per cent. triphenylamine hydrochloride in a vehicle composed principally of polyethylene glycol 300 (liquid macrogol



Dr. H. D. C. Rapson takes a point. On the platform are Dr. E. F. Hersant, Upminster (joint general secretary of the Conference), and Professor J. B. Stenlake, Glasgow (chairman at the session).



Professor A. H. Beckett, Chelsea, contributor of papers at many science sessions, questions another contributor during one of the sessions.

B.P.C.). Gas chromatography revealed that all batches of polyethylene glycol 300 contained ethylene oxide (0.01-0.2 per cent.); loss of tripeleannamine was associated with batches containing more than about 0.1 per cent. of that impurity. Other authors have shown that ethylene oxide reacts with nicotinamide to form a quaternary ammonium compound and a similar reaction seems indicated in the present instance. Deficiencies of inorganic chloride in degraded samples support the belief that chlorohydrin formation proceeds simultaneously with quaternisation.

DR. W. MITCHELL pointed out that, though the authors had mentioned the toxicity of ethylene chlorohydrin, the compound was less toxic than ethylene oxide. PROFESSOR A. H. BECKETT, Chelsea, pointed out that, with a highly active material, formulation could have a big effect on the behaviour of a preparation containing it—a point not sufficiently appreciated by pharmacologists and managements.

He was told by MR. BOON that quaternisation probably occurred at the nitrogen of the pyridine ring of tripeleannamine. That suggestion was

later confirmed by DR. R. T. PARFITT, Glasgow.

Paper 9 was read by DR. H. D. C. RAPSON, Chelsea, who apologised for the absence of his co-author through inability to complete the formalities to allow her to travel from Greece. He said that the system investigated was unfortunate in that the R_f values obtained were ridiculously low.

DICHLOROPHEN AND p-CHLOROPHENOL Anomalous chromatographic behaviour

H. D. C. RAPSON and A. SCARTSIARIS
(Department of Pharmacy, Chelsea College of Science and Technology)

VARIATION of R_f value of *p*-chlorophenol and di-(5-chloro-2-hydroxyphenyl) methane when run alone or together on thin layer chromatograms using toluene and silica gel is attributable to adsorption rather than partition processes. This conclusion is based on a quantitative study of R_f value variation, adsorption and partition behaviour. The adsorption isotherms are used to calculate the R_f values. The latter were of similar magnitude to those obtained directly from the chromatograms.

DR. R. A. DE ZEEUW, Holland, elicited from Dr. Rapson that the chromatograms had not been run under standardised humidity conditions. He went on to point out that absorption of water from the atmosphere could affect the R_f values in non-polar systems and criticised the method used for determining the centres of the spots, arguing that the R_f values could not be obtained to an accuracy of more than two decimal places (three had been quoted). DR. RAPSON said he would agree with most of those comments but reminded Dr. De Zeeuw of his opening remark that the R_f values could not be relied on at such low values. He was merely saying that the results exhibited a trend for the relative amounts of two compounds in a system to affect the R_f values. He would not necessarily agree with the work that had been reported on absorption of atmospheric moisture. DR. E. J. SHELLARD thought some men-

tion should have been made of the storage conditions of the silica gel used for the column.

The next item, a short communication, was read by the author. MR. PORTER said that the investigation had been undertaken because of the need for a method of investigating the uptake of phenylmercuric nitrate by the rubber teats of eye drop bottles and to determine it in small quantities in the presence of other substances.

PHENYLMERCURIC NITRATE Cathode ray polarography

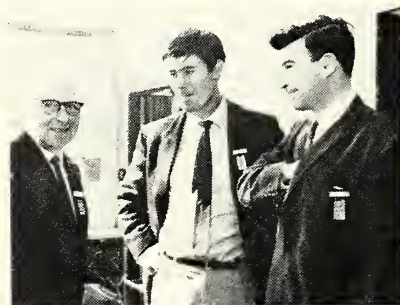
G. S. PORTER (School of Pharmacy, Liverpool Regional College of Technology)

THE cathode-ray polarography of phenylmercuric nitrate (0.4-20.0 $\mu\text{gm./ml}$) was investigated in hydrochloric acid (0.1N), lithium chloride (0.2N) and buffer solutions (Britton-Robinson and Sorensen) between pH 1.8 and 12.3. In all cases only one wave of analytical importance was seen, the peak voltage being about -0.3 volts. Since good linearity, wave shape and sensitivity were found with both 0.2N lithium chloride and 0.1N hydrochloric acid, the latter was chosen as supporting electrolyte. A single determination takes 6-7 min. and a ten point calibration graph 40 min.

DR. G. E. FOSTER, who asked whether any experiments had been carried out on teats soaked in phenylmercuric nitrate, was told that teats had been soaked in a solution several



Dr. W. Mitchell, Brookmans Park, Herts, rises to question authors P. F. G. Boon and A. W. Mace



During a tea interval Messrs E. Aspin, Blackpool, W. H. Jones, Brighton, and W. N. Pitkethly, Newcastle upon Tyne, continue their discussions on the Science papers.

times as strong as that stated in the British Pharmacopoeia and for several times the specified time. After that had been done the tests were still capable of taking up more of the substance. MRS. D. J. ASH, Rhyl, was told that eye drops had been made of adrenaline and zinc sulphate. They gave a high wave when freshly prepared but a low one after autoclaving. That was associated with the fact that hardly any antibacterial activity remained.

The next paper was read by Mr. I. F. Jones:—

CEPHALOSOPORIN C

Polarography of derivatives

I. F. JONES, J. E. PAGE and C. T. RHODES (School of Pharmacy, Portsmouth College of Technology and Glaxo Research, Ltd., Greenford)

PRELIMINARY measurements on the polarographic reduction of cephalosporin C, cephalothin and cephaloridine are reported. The authors have used the polarograms of cephaloridine for quantitative analysis, those for the other compounds are reported for qualitative comparison. Concentrations as low as 2×10^{-6} M cephaloridine could be detected on the recording polarograph. Half-wave potentials for cephalosporin C, cephalothin and cephaloridine are found to depend on the concentration of the depolariser, the half-wave potentials becoming more negative with increasing concentration. Sensitivity of the method for cephaloridine is similar to that of the ultraviolet spectrophotometric method.

PROFESSOR A. R. ROGERS, Edinburgh, queried certain aspects of the treatment of data. Another questioner, who asked whether the method would also measure breakdown products of cephaloridine, was told that it was specific for the antibiotic though no information was yet available on breakdown products. DR. RAPSON was told that two polarographic waves observed at low pH values appeared to be a function of the side chains in the 3 and 7 positions. There was no information as to why the second step was being recorded, but it was believed to be diffusion-controlled.

MR. A. C. MOFFATT made his *début* as a Conference author when he described an extension of previous work reported from Chelsea College of Science and Technology. He illustrated in a short film the technique used.

DRUGS IN SPORT

Routine detection and identification in urine of stimulants, analgesics, antihistamines, local anaesthetics and other drugs, some of which may be used to modify performance

A. H. BECKETT and A. C. MOFFATT (Department of Pharmacy, Chelsea College of Science and Technology, University of London)

THE paper reports that the work of Beckett, Tucker & Moffatt (1967) on stimulants is extended, using two isothermal gas-liquid chromatography systems, to obtain retention data for seventy-four additional compounds, allowing the analysis of 116 compounds to be made using only three isothermal GLC systems. Drugs other



Dr. R. A. De Zeeuw, a Conference visitor from Holland, is critical of the laboratory technique in a paper dealing with chromatographic anomalies.

than those which may be used to modify performance in sport are included.

DR. E. J. SHELLARD asked if account had been taken of whether natural constituents of urine, such as steroids, affected the behaviour of the drugs studied. MR. MOFFATT replied that no trouble arose from steroids but one had to be careful to define what was meant by "normal" urine. Athletes undertook considerable exertion and might be on special diets, etc., which could make the constitution of their urine different from that of non-athletes.

DR. FOSTER said that caffeine would be found in urine after imbibing tea or coffee—at what level of caffeine would it be considered that doping had taken place? PROFESSOR BECKETT said that caffeine was not now considered a "dope" in many sports, as it had a diuretic, in addition to its stimulant, action. DR. RAPSON pointed out that some chromatograph peaks in the series reported were close together—it was known that interaction between peaks could occur in such a situation—was that a problem? MR. MOFFATT replied that the figures were given only as a guide. By running a chromatograph of the pure substances at levels close to those found, it could be seen how closely the known and unknown would correspond.

MISS ELIZABETH A. DAVEY, making her first Conference contribution, presented:—

DIAMORPHINE

Determination by thin-layer chromatography and spectrophotometry

ELIZABETH A. DAVEY, J. B. MURRAY and A. R. ROGERS (Department of Pharmacy, Heriot-Watt University)

STORED solutions of diamorphine may contain O⁻ and O⁺-acetyl-morphines as well as diamorphine and morphine. All are converted into morphine in the first stage of the British Pharmacopoeial assay of the injection and thus contribute to the final morphine content. Separation of opium alkaloids and their acetylated derivatives by thin-layer chromatography has already been reported. The authors discuss the application of the technique to diamorphine, the acetylmorphines and morphine.

DR. SHELLARD asked questions on the technique, and was told that the alkaloidal spots had been removed with a razor blade (DR. RAPSON later sug-

gested that a "microvacuum cleaner" could be constructed that would do the job better) and that the spot and blank areas were made equal in size by removing in each case a band across the plate. PROFESSOR BECKETT was informed that reference samples of the O⁻ and O⁺ compounds were readily available. THE AUTHOR, in answer to MR. J. A. MYERS, Edinburgh, said that no pharmacological work had been carried out on the breakdown products.

To close the session, DR. R. A. DE ZEEUW introduced the following paper, including in his presentation a film of the techniques employed:—

CHROMATOGRAPHY

Pharmaceutical applications of vapour-controlled thin-layer chromatography

ROKUS A. de ZEEUW (Laboratory for Pharmaceutical and Analytical Chemistry, State University, Antonius Deusinglaan 2, Groningen, Holland)

In thin-layer chromatography, solvent vapour plays an important rôle. To obtain full benefit of the influence of vapour in the technique a new chamber has been developed, providing full vapour control over the entire plate. It allows better separations of chemically related compounds. Properties of the vapour-control chamber are shown in separations of barbiturates and local anaesthetics.

DR. RAPSON discussed what might be happening to the vapour phase of the solvent during the running. THE AUTHOR gave his opinion on the mechanism, saying it was thought that the more polar solvent became adsorbed onto the plate and, together with it, acted as the stationary phase, while the less polar solvent acted as the mobile phase. He was not concerned with whether the process was adsorption or partition chromatography—the aim was to obtain separation and reproducibility, and the latter was better than with the ordinary saturation chamber. DR. SHELLARD said that as partition chromatography seemed to predominate, temperature would be important. DR. ZEEUW replied that the work was carried out in a relative-humidity-controlled laboratory. He suggested finding the R.H. at which reproducible R_f values were obtained and being sure, if R.H. was not controllable to state in reporting results that the values were probably not reproducible.

Tuesday morning's science session was under the chairmanship of MR. H. BURLINSON (Conference chairman). The first item was a short communication by DR. T. J. BETTS:—

FENNEL FRUITS

Examination by gas chromatography without preliminary distillation

T. J. BETTS (School of Pharmacy, University of London)

It has been observed that growing fruits of fennel, *Foeniculum vulgare* Mill., in both bitter (var. *vulgare* (Mill.) Thellung) and sweet (var. *dulce*) forms, grown in the same garden develop approximately the same amount of anethole per 100 fruits during their maturation (Betts, 1968). Thirteen dried

fennel fruits of various origins have been examined by gas-liquid chromatography to see how the content and proportion of the essential-oil constituents relate to the values previously recorded. Anethole contents differed widely, and a fennel virtually free of anethole was found. Estragole was

present instead of anethole, its presence being confirmed by infra-red spectroscopy. This fennel has not been reported in commerce before.

Dr. Betts pointed out that fennels not containing anethole must be non-B.P.C., but were to be found in commercial samples. There was no discussion.

CONFERENCE BREVITIES

The *Birmingham Post* treated the Conference as a major event, devoting almost a full page to its proceedings each day in some editions.

The President of the Pharmaceutical Society held a reception on Sunday evening after the church service for

members of Council of the Society, the Conference Executive and the local committee.

PROFESSOR A. H. BECKETT, whose subject was detection and identification of drugs stimulants, was featured in both B.B.C. radio and television programmes.

Each Conference member received by post a personal invitation from Canon Bryan Green, Rector of Birmingham, to a special Conference service at Birmingham Parish Church, St. Martin's in the Bull-ring, on Sunday evening. First lesson at the service was read by the Conference president (Mr. A. Howells) and the second by the chairman (Mr. H. Burlinson). In his address Canon Green said that the benefits of modern chemistry needed to be set against such developments as biological warfare. Man's mastery over nature was one of the glories of the times, but that mastery seemed sometimes to upset the balance of nature, as, for example, in the side effects that occurred with drugs.

Third-generation Oral Contraceptive

SYMPOSIUM ON CHLORMADINONE ACETATE

DESCRIBED as the first of a "third generation" of oral contraceptives, chlormadinone acetate was the subject of a symposium sponsored by Syntex Pharmaceuticals, Ltd., Maidenhead, Berks (in conjunction with the group's Institute of Hormone Biology), at Cambridge on September 14.

Highly Active Progestogen

The compound is a highly active progestogen which, as a contraceptive, is given in low dosage continuously. There is evidence that ovulatory cycles are common in women under treatment, and other mechanisms of action have therefore been sought.

Opening the symposium, SIR JOHN PEEL (president, Royal College of Obstetricians and Gynaecologists) said that advantages of the compound were that it was taken continuously and that oestrogens and their associated side effects were excluded.

Pharmacology of the drug was outlined by DR. R. DORFMAN (director, Syntex Institute of Hormone Biology). It was, he said, a highly active progestational agent when administered both by the subcutaneous and oral routes and one of the most active inhibitors of ovulation in the mated adult oestrus rabbit. At doses up to 1 mgm. daily orally, it was inactive as an oestrogen in the immature mouse but twice as active as norethindrone as an anti-oestrogen and five times as active as progesterone as an injectable antioestrogen. Chlormadinone was inactive as an androgen but active as an antiandrogen in the rat and the mouse systemically.

Results of large-scale trials of continuous chlormadinone acetate in fertility control were presented by DR. J. MARTINEZ-MANAUTOU (National University of Mexico) and British experience with the compound was described by MR. R. MACDONALD (University of Leeds). Mr. Macdonald had also studied the action of the drug on the cervical mucus and had demonstrated a distinct progestogenic effect. The progestogenic changes in the mucus were associated with considerable restriction of sperm penetration. He concluded that chlormadinone acetate is an effective contraceptive and an attrac-

tive alternative to combined tablets because it possesses a reduced biological effect.

MR. MAX ELSTEIN (Charing Cross Hospital Medical School) also described the cervical mucus changes in treated patients and suggested that such studies could be used in the search for alternative compounds and for achieving optimal dosage.

Effects of chlormadinone acetate on thyroid function tests were described by DR. PINCUS TAFT (Alfred Hospital, Melbourne, Australia). It is known that oestrogen-progestogen-containing ovulation suppressants increase the binding of thyroid hormone to carrier proteins in plasma, thus invalidating certain tests of thyroid function. Studies made showed that the effect was oestrogen induced, and chlormadinone acetate used at low dosage continuously as an oral contraceptive was found to have no effect on the indices of thyroid function examined.

Effects on Blood Clotting Factors

Preliminary results — including data collected only a week previously — of a study of the effect of chlormadinone acetate contraception on clotting factors were given by DR. L. POLLER (Withington Hospital, Manchester). In previous studies he had shown that conventional oral contraception with oestrogen-progesterone compounds produces a rise in blood clotting factors. Factors VII and X are significantly increased from the third month onwards and over a two years period, at least, factor VII changes are cumulative. The changes are not dose-dependent so cannot be prevented by reducing the dose of steroid. Results at the three month stage in the study show that the women fall into two groups:— those previously not taking oral contraceptives; those who had changed from a conventional preparation to chlormadinone. Dr. Poller reported that there was no evidence of a rise of the clotting factors with chlormadinone so far and women who started with high levels following conventional oestrogen-progestin administration were showing a trend to return to normal levels. DR. J. DALY (Charing Cross Hospital Medical School) next outlined the effect of

chlormadinone acetate on adrenocortical function.

Two papers followed on social aspects of contraception. DR. ELEANOR MEARS (a member of the World Health Organisation scientific group on hormone steroids in contraception) related contraception and the population explosion. Most promising of the emerging methods, she said, was the low dose continuous progestogen regime, particularly if it proved possible to use it in encapsulated injectable form. Dr. Mears stressed the fact that oral contraceptives had proved acceptable to the medical profession, encouraging the practitioner to give contraceptive advice. Doctors prescribed six times the number of oral contraceptives that were supplied by clinics.

DR. LENWORTH JACOBS (director of the Jamaica Government Family Planning Association) praised companies such as Messrs. Syntex for bringing products and information to developing countries. He described a study of 201 women in the low socio-economic group, with poor educational background, who had received oral chlormadinone 0.5 mgm. daily as a contraceptive. The drug gave good protection from pregnancy and the procedure of taking the "pill" every day appealed to the women, though many still failed to take it regularly.

Low Drop-out Rate

Finally, DR. G. CHRISTIE (Medical director, Syntex Pharmaceuticals, Ltd.) presented data from a multi-centre computerised trial. In the study, 1,328 women were treated for a total of 7,002 patient lunar months. Ten pregnancies resulted (five in patients who had not omitted any tablets). Inter-menstrual bleeding occurred in 15.20 per cent. of patients in the first cycle and gradually diminished thereafter. Only 5.9 per cent. of patients dropped out for medical reasons.

During a lunch-time news conference, MR. D. MOREAU (Syntex Pharmaceuticals, Ltd., managing director) was unable to give a date for the launch of chlormadinone acetate onto the market but he did not exclude the possibility that it might be ready for Dunlop Committee approval by 1970.

INTERNATIONAL PHARMACEUTICAL FEDERATION

PRESS AND DOCUMENTATION SECTION

FUTURE OF PHARMACOPOEIAS

THE Press and Documentation Section of the International Pharmaceutical Federation arranged a symposium on Pharmacopoeias during the twenty-second General Assembly at Hamburg (see also *C. & D.*, Sept. 14, 1968). Speakers from Sweden, Belgium, Soviet Russia, Germany, Great Britain and the United States took part.

Opening the symposium, DR. TEODOR CÄNBÄCK, Sweden, discussed the type of drug with which future pharmacopoeias would have to deal, and stressed the necessity for, and urgency of, rapid dissemination of data on tests and standards of quality of new drugs. Few national pharmacopoeias today, he said, were, for a variety of reasons, in a position to publish at an early date new information on drug specifications. At best there was an interval of five years between new editions, even if in some countries interim addenda were published.

Dr. Cänback called for close international co-operation in that field, stressing his opinion that the World Health Organisation was the ideal organisation for co-ordinating such work.

"In my opinion," Dr. Cänback remarked, "we need a description of the drug so soon as it is on the market."

DR. STANIER, Belgium, discussed the spheres of influence of national, the European and the International pharmacopoeias, giving a careful summary of the historical reasons for setting up a European Pharmacopoeia, and the complexity of the problem of attaining, in present conditions, a truly international pharmacopoeia that would be acceptable to all countries.

In the same symposium DR. A. ARZAMASCEV, U.S.S.R., presented a paper entitled "How Pure are Pharmacopoeial Drugs and How Pure Should They Be?", and DRs. L. C. MILLER and W. M. HELLER, U.S.A., a paper entitled "Should Drug Standards Include Tests for Therapeutic Efficiency?" The American paper considered the establishment of dissolution tests, and pointed out that, in the United States, efforts were concentrated on developing a standard *in vitro* dissolution test that could be correlated with standard *in vivo* absorption tests in animals or in healthy humans.

COMMISSION ON FUTURE ACTIVITIES

GENERAL PRACTICE SECTION CALLED FOR

DURING the debate that followed Sir Hugh Linstead's introduction to a session devoted to the discussion of the report of the commission set up to consider the future activities of the Federation, the president of the Pharmaceutical Society (Mr. A. Howells) made an important statement concerning sections 14-23, which dealt with the setting up within the Federation of a section for general-practice pharmacists.

It was not the first time, he said, that a president of the Pharmaceutical Society had spoken in favour of such action. In 1955 Mr. Harry Steinman, the then president, speaking in London, had stressed that, in the organisation of the Federation, "We should not forget that group of people who bear the heavy burden of providing the great bulk of the people of this world with the pharmaceutical service they need day by day. I am thinking of the pharmacist in his pharmacy."

Mr. Howells reiterated those sentiments, "hopeful that, at last, in this major review of the organisation of F.I.P., general-practice pharmacy will become a recognised, continuous and permanent section rather than a series of biennial, unrelated sections of the General Assembly."

A specific section within the Federation was an essential forum with which to provide the environment for the international development of general-practice pharmacy. The time was not one for accepting a compromise, and the British delegation accordingly supported strongly the suggestion to form at least a nominal section under a representative steering committee. "We are convinced," Mr. Howells concluded,

"that potential difficulties should not prevent this Assembly from adopting the long overdue principle of a general-practice section. It is also our belief that the most efficient way to institute such a section is under the guidance of a presidentially appointed steering committee. With goodwill and enthusiasm from all member countries, we can foresee the general-practice section playing a major rôle in the development of this field of practice."

Commenting on Mr. Howell's statement, SIR HUGH LINSTAD (chairman of the Commission) agreed in principle with the remarks made, but thought it preferable to have a representative committee of the countries concerned rather than a nominated committee.

Opening the debate on the Commission's report, Sir Hugh said that the meeting was not one for decision taking, but for exchanging ideas. He felt that, on the whole, the Federation's constitution was sound, but two areas needed consideration, namely, the question of a section for general-practice pharmacy, and the reorganisation of the scientific section.

Referring to the structure of the Bureau and Council, he thought the Council should constitute the effective decision-making body and be representative of all member countries and the various sections. The Bureau should be a body of experts available for consultation by the president.

During the debate that followed, PROFESSOR ARNOLD BECKETT outlined his proposals for a new form of organisation for the scientific section, and DR. WHITTET argued for a new section of representatives of Government pharmacists. MR. J. C. BLOOMFIELD strongly

supported the setting up of a central planning section to help host countries in their work of preparing for General Assemblies and other meetings of the Federation.

NUFFIELD FOUNDATION

£2 million in grants

AMONG the 150 grants (total value about £2 million) which the Nuffield Foundation describes in its twenty-second report are sums given in many places and for many purposes, including studies of the biological consequences of living in large cities in Australia; an evaluation of a family-planning campaign in Mauritius; observations of the traditional attitudes to health and illness in Zambia; and the study of protozoology in Glasgow. Grants also ensure that the Oxford United hospitals are to have a building in which leprosy can be studied and treated. The introduction to the report, which covers twenty-one months ended December 31, 1967, is critical that the food industry, with a few praiseworthy exceptions, seemed not yet willing to accept its due share of responsibility for promoting relevant research. The Foundation had for years supported a programme in food safety, at a total cost of £440,000. "What was spent by the food industry on basic research into the biological foods and the ever-increasing amount of chemical and physical treatment of food appears to be small and incommensurate with the prevailing lack of knowledge and understanding of the scientific and medical problems." The Foundation has set a three-year term to the future of its food-safety programme, and the trustees hope the industry will assume progressively greater responsibility for the long-term research still needed in that field.

A further £80,000 has been made available to the Zoological Society's Nuffield Institute of Comparative Medicine, and a formal grant of £33,000 has been given to Guy's Hospital for its work on general practice, illustrating the general concern of the trustees "for experiment and innovation" in a field of central importance to the changing pattern of medical services in the United Kingdom. The report states that the trustees have it in mind "to seek one or two more distinctive opportunities in this field." To support an extension of the investigation of anatomical and functional defects of the urinary tract £16,700 has been granted over five years to Dr. Winifred Young (consultant paediatrician at the Queen Elizabeth Hospital for Children, London).

The report states that inflammatory skin diseases were among the most common ailments but the development of a more effective therapy was impeded by a lack of basic information about the identity and rôle of biochemical substances which produced abnormalities in the blood-vessels, seen in inflamed skin lesions. In 1967 the Foundation made a grant of £15,000 over four years for research on that subject in Professor Sam Shuster's

Department of Dermatology in Newcastle. The work is under the direction of Dr. M. W. Greaves, who was accumulating information about the mechanisms of inflammatory processes in skin and other tissues by defining the vascular responses, particularly increased capillary permeability, in different kinds of lesions in terms of the concentrations of vaso-active substances found in them.

Maximal Antibacterial Effects

It seemed likely that, in the treatment of many if not all bacterial infections, anti-bacterial agents—antiseptics and antibiotics—would exert their maximum effect if they could be applied at the time of bacterial cell division. That had been shown to be the case when the anti-bacterial agent phenol was applied to dividing cells in cultures of *Escherichia coli*. If the period of maximal bactericidal effect *in vivo* could be accurately forecast it would evidently lead to great savings of various kinds in connection with the chemotherapy of bacterial infections in man and animals. The Foundation has made a grant of £13,850 over three years to enable Dr. R. E. Thompson, reader in bacteriology at the Bland-Sutton Institute of Pathology, to investigate the problem through producing bacterial populations in which all the cells were synchronously at the same stage of development, first for study *in vitro* and then *in vivo*. Using a strain of *Escherichia coli* specific to mice as the bacterial population; he has succeeded in synchronising cultures of *Escherichia coli* by using ampicillin.

Collaboration between medically trained people and experts in fluid mechanics drawn from various disciplines was producing information about the physiological flow of fluids which was of great medical importance.

The Foundation had therefore made a grant of £9,000 over three years for studies by Dr. Caro of the flow of blood in large vessels, with special reference to the aetiology of atheroma, the fatty degeneration of the arterial walls.

The Foundation has also made a grant of £8,000 over three years to enable Dr. P. G. McDonald, in the department of physiology at the Royal Veterinary College, to make further studies of the effects of oestrogen and, more particularly, progestins on the central nervous system.

In rheumatism research, for which the Foundation had an earmarked allocation in the form of the Oliver Bird Fund, the emphasis continued to be upon fundamental work. A promising new line of investigation was the study of spontaneous and induced arthritis in pigs being investigated by Professor E. Cochin at the Royal Veterinary College. The Foundation's grant was for a three-year programme of comparative studies of porcine and human arthritis. Induced arthritis in rabbits was being studied from the immunohistochemical standpoint by Dr. P. J. Lachmann in the Department of Pathology at Cambridge.

An area of great importance in rheumatism research was the elucidation

of the biochemistry of connective tissue, which was basic to an understanding of the nature of rheumatoid joint lesions. The Foundation had made some new grants and continued its support for established projects on various aspects of the synthesis and breakdown of connective tissue. Work was in progress at the Strangeways Research Laboratory, Cambridge, at the Agricultural Research Council's Meat Research Institute, Langford, Bristol, at the Kennedy Institute of Rheumatology, London, and in the Department of Biological Chemistry at Manchester.

The Foundation's funds available for grant-making have been reduced by the fall in the British Motor Holdings dividend. The report also mentions that the general financial climate has made

it harder for universities, and Government and voluntary agencies, to take over projects which had been supported in their early stages by the Foundation. The Foundation has a continuing concern to see that effective use is being made of its grants, with publication or action or continued work under other auspices following on from the Foundation's period of "pump-priming."

The Foundation was also responsible for administering the Elizabeth Nuffield Educational Fund (under which 96 women received grants for various courses of study) and the Viscount Nuffield Auxiliary Fund, which has made a number of grants for the blind, the deaf, and handicapped children, with a particular emphasis on the mobility of the blind.

ACCIDENTS IN FACTORIES

Overall upward trend continued in 1967

ALTHOUGH fatal industrial accidents in 1967 fell by 137 to a total of 564 (the lowest figure recorded since the 1914-18 war), the overall trend of accidents was upward to 304,016 (an increase of 2.5 per cent. on 1966).

In presenting his annual report for 1967 on the work of the Factory Inspectorate (H.M. Stationery Office, price 14s. 6d.), the Chief Inspector (Mr. W. J. C. Plumbé) said on September 17 that he did not wish to set too much store on the fatality figure because "the number of fatalities is relatively so small, and the causes of accidents which result in death so many, with so often a hair's breadth between life and death, that the number in a single year may not give a real indication of a trend." The statistics, he said, cannot be a satisfactory indicator of accident prevention performance. The need for a more sensitive method of measurement was a clear necessity and the report indicated that the possibility of identifying those accidents which resulted in severe injuries was under consideration.

To those who wanted a greatly increased inspectorate, the Chief Inspector said "no increase in the inspectorate would make important inroads into the gross figures. Indeed, the immediate effect might well be to improve the standard of reporting, so that the number of accidents reported showed a further rise." Nevertheless, he was deeply concerned at the failure over the past few years to recruit as many non-specialist inspectors as were needed.

"Sophisticated" Industrial Hygiene

Referring to the increasing sophistication in the whole field of industrial medicine and hygiene, the report draws attention to the physiological and biological changes that are now found as a result of exposure to levels of toxic air contaminants which cannot be detected with the five senses and in the past would have been regarded as negligible. During 1967 a start was made on equipping the inspectors in the districts with industrial hygiene instrument kits so that they could make tests as part of their routine inspections.

In preparing his report, Mr. Plumbé has reverted to the pre-1957 practice of

producing a single report covering all aspects of the work of the factory inspectorate. Material previously contained in two separate reports has been condensed and amalgamated to produce a single, compact report of 160 pages.

Dr. T. A. Lloyd Davies (H.M. Senior Medical Inspector) contributes to the combined report by giving details of the progress which the medical branch has made with a number of surveys on conditions affecting the health of workers in particular industries. His contribution also contains a number of case studies that will be of particular interest to those who are closely concerned with industrial health.

Cases of industrial poisoning or disease totalling 353, including two fatalities, were notified during the year, against 365 (one fatal) in 1966, and 455 (seven fatal) in 1965. From the statistics it also appears that in 1967 there were 47,100 employees subject to the Factories Act in the pharmaceutical and cosmetic industries. The reported accident incidence was 23.4 per 1,000 (24.1 in 1966).

On barrier creams the report says they "perhaps have some useful part to play. The original hope that they would form a complete barrier between skin and irritants were soon shown to be unfulfilled, but that some persons found they afford some protection and are of value in helping to wash after work."

MANUFACTURERS' ACTIVITIES

Drugs for Earthquake Victims.

The pharmaceutical division of Imperial Chemical Industries, Ltd., has donated 500,000 antibiotic tablets to help to combat disease in Eastern Iran, following the recent earthquakes there.

On Show in New York.—A "Wheel of Beauty," a patented compact with its own powder "dispenser," produced by Kigu Ltd., Waldo Works, Waldo Road, London, N.W.10, is reported to have aroused great interest and admiration when shown on the company's stand at the New York Jewellery Show recently. The compact enables the right amount of powder ("no waste, no spilling") to be obtained at the turn of a small key-winder wheel.

TRADE REPORT

The prices given are those obtained by importers or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are augmented before wholesale dealers receive the goods into stock.

LONDON, SEPTEMBER 18: Most of the price changes during the week in the CRUDE DRUGS sector were in an upward direction reflecting the tight supply position, rather than any increase in trading. A small quantity of BUCHU was on offer at 22s. lb. GENTIAN was up by 20s. cwt. for spot supplies, while PODOPHYLLUM (*Emodi*) was dearer by 10s. Any LYCOPODIUM available would command 35s. lb. against 30s. recently with practically nothing offering from origin. The best grade of Alexandria SENNA PODS were reported scarce although there were reasonable quantities of No. 2. Brazilian MENTHOL was slightly firmer for shipment. Costa Rican IPECACUANHA continued to decline, the spot quotations being down by 2s. lb. and shipment by one shilling. All users of MALT will have to face higher prices if quality standards are to be maintained because of the poor barley harvest this year due to bad weather, according to the Maltsters' Association.

In ESSENTIAL OILS Brazilian PEPPERMINT was reduced by three-halfpence lb. for shipment. Mysore SANDALWOOD was 5s. per kilo dearer on the spot with East Indian still unquoted. Chinese CITRONELLA and SPEARMINT were also dearer.

MERCURY having advanced to £230 per flask, the main MERCURY SALTS have been increased. SUBCHLORIDE is now 178s. per kilo (against 164s.) and the PERCHLORIDE 142s. (against 139s.). The new rates are given below.

Pharmaceutical Chemicals

ADRENALINE.—(Per gm.). Synthetic B.P., 1-kilo lots, 1s. 2d.; 500 gm. is 1s. 4d. ACID TARTRATE, B.P., 1 kilo, 10½d.; 500 gm. 1s.

ALUMINIUM CHLORIDE.—Pure, 6s. 2½d. per kilo, 50 kilo kegs.

ANTIMONY TRICHLORIDE.—Flake in 25-kilo drums, about 15s. kilo.

ATROPINE.—(Per kilo for 500-gm. lots): ALKALOID and METHONITRATE, 1,568s. 6d.; METHYLBROMIDE, 1,552s.; SULPHATE, 1,375s. BARIUM SULPHATE.—B.P., 50-kilo lots, 3s. 8d.; 250-kilos, 3s. 3½d. in kegs.

BISMUTH SALTS.—(Per kilo):—

Quantity	Under 50	50	250
	s. d.	s. d.	s. d.
CARBONATE ...	92 0	90 0	89 0
SALICYLATE ...	81 0	79 0	—
SUBGALLATE ...	78 0	76 0	—
SUBNITRATE ...	83 0	81 0	80 0

CINCHOCAINE.—HYDROCHLORIDE, 850s. kilo.

CORTISONE.—1-kilo lots, ACETATE, 4s. 6d.; HYDROCORTISONE ACETATE or ALCOHOL, 4s. 6d. per gm.

CRESOL.—B.P. quality, 7s. 9d. per gall. in 5-gall. lots.

DITHRANOL.—B.P. 330s. per kilo, for 5-kilo lots.

GLUCOSE.—(Per ton) MONOHYDRATE, B.P. powder, £76; ANHYDROUS, £48 10s.; LIQUID, 43° Baume £59 10s. (5-drum lots).

HOMATROPINE.—(500-gm. lots, per kilo): ALKALOID, 1,216s.; HYDROBROMIDE, 987s.; HYDROCHLORIDE, 1,145s. 9d.; METHYOBROMIDE, 1,022s. 3d.; SULPHATE, 1,181s.

MERCURY SALTS.—Per kilo for under 50-kilo lots—AMMONIATED powder, 165s.; PERCHLORIDE, 142s.; SUBCHLORIDE, 168s.

OXIDES, yellow, 174s. and red, 178s. IODIDE (25-kilo lots), 120s.

PARACETAMOL.—250-kilos, 21s. 10½d. kilos.

Crude Drugs

ACONITE.—Spanish *napellus*, 4s. 3d. lb. (4s., c.i.f.).

AGAR.—Kobé No. 1, 19s. 6d. lb., c.i.f.; European, 22s. 6d., duty paid.

ALOE.—(Per cwt.). Cape primes, 290s., spot, nominal; 265s., c.i.f., October-November. Curaçao, 510s.; 490s., c.i.f.

BALSAMS.—(per lb.). CANADA: 33s. c.i.f., 33s. 6d. spot; COPAIBA: B.P.C., 10s. 9d., c.i.f.; 10s. 6d., spot; PERU: 13s. 3d., c.i.f.; 13s. 9d. spot; TOLU: B.P., 13s.-14s.; genuine as imported, 41s. 6d., c.i.f.

BELLADONNA.—LEAVES, 3s. 8d. lb., spot, 3s. 6d., c.i.f.; HERB, 2s. 6d. and 1s. 10d., c.i.f.; ROOT, 1s. 11d. spot, 1s. 10d., c.i.f.

BENZOL.—Sumatra block B.P.C., SPOT £27 per cwt.

BUCHU.—LEAVES, spot 22s. lb. nominal; no shipment offers.

CAMPHOR.—B.P. powder, spot unobtainable; shipment, nominal.

CARDAMOMS.—Alleppy greens, 18s. 6d. lb., spot. Alleppy prime seed, 24s. 6d., c.i.f.

CASCARA.—Spot, 320s. cwt. nominal; 295s., c.i.f.

CASSIA.—*Lignea*, whole, 500s. cwt., duty paid, nominal; 420s., c.i.f.

CHERRY BARK.—Thin natural, 2s. 9d., lb., spot; 2s. 6d., c.i.f.

CHILLIES.—Zanzibar, 350s. cwt. spot.

CINNAMON.—Seychelles BARK, 285s. cwt., spot; shipment, 272s. 6d., c.i.f. Ceylon OUILLS (lb., c.i.f.) five 0's, 11s. 9d.; four 0's, 10s. 3d.; firsts, 7s.; quillings, 4s. 1d.

CLOVES.—Zanzibar 9s. lb. spot.

COCHINEAL.—(Per lb.). Canar Isles silver-grey or black brilliant, 31s. lb. nominal. Peruvian silver grey, 22s. 6d. nominal.

CUBES.—Spot quoted at 285s. cwt.

DANDELION.—Root, 400s. cwt. spot; 390s., c.i.f. nominal (October).

ERGOT.—Portuguese—Spanish, 8s. 3d. lb.; 7s. 9d., c.i.f.

GENTIAN.—Spot, 300s. cwt.; 280s. c.i.f., nominal.

GINGER.—(Per cwt.).—African, 205s. spot; 195s., c.i.f. Cochín 400s., c.i.f. Jamaican No. 3, 350s. spot; Nigerian split, 175s., spot; peeled, 172s. 6d.; 167s. 6d. c.i.f.

GUM ACACIA.—Kordofan cleaned sorts, 245s. cwt. spot; 240s., c.i.f.

IPECACUANHA.—(Per lb.). Matto Grosso, 48s. spot, 47s., c.i.f. nominal; Costa Rican, 59s. and 56s., c.i.f.; Colombian, 47s. 6d. and 47s., c.i.f.

HONEY.—(per cwt., ex store). Australian light amber, 150s.; medium amber, 135s. Argentinian, 155s.; Canadian, 185s.; Mexican, 130s.; Chinese, 120s.

HYDRASTIS.—35s. 6d. lb. spot; 34s. 6d. c.i.f.

HYOSCYAMUS.—Niger, 2s. 2d. lb.; 2s., c.i.f.

JALAP.—Mexican, 6s. 3d. lb. spot, 6s., c.i.f.; Brazilian, 2s. 2d. nominal; 2s. 1d. c.i.f.

KARAYA.—No. 2 f.a.q. gum, 365s. cwt. spot; 335s., c.i.f.

LANOLIN.—ANHYDROUS, B.P., is dearer at from 5s. 5d. to 6s. 0½d. kilo as to grade in 1-ton lots delivered free drums. Cosmetic grade, 6s. 5d.

LEMON PEEL.—Spot, 2s. 9d. lb., 2s. 6d., c.i.f.

LIQUORICE.—ROOT, Russian, 85s. cwt.; BLOCK JUICE, Anatolian, 250s. per cwt.

LOBELIA.—(lb.) Dutch, new crop, 4s. 2d., c.i.f.; 4s. 4d., spot. American, 12s. 9d., c.i.f.; 13s., spot.

MACE.—Grenada No. 1, spot, 9s. 6d. lb. MENTHOL.—(lb.). Chinese, 35s. 6d., spot; September-October, 32s. 6d., c.i.f. Brazilian, 29s. 6d., spot; 28s., c.i.f.

MERCURY.—Spot, £230 per flask of 76 lb. ex warehouse, nominal.

NUTMEGS.—(Per lb.). West Indian (c.i.f.) 80's, 4s. 9d.; sound unsorted, 3s. 5d.; defectives on spot, 3s. East Indian (c.i.f.) 80's, 4s. 11d.; 110's, 4s. 2d. b.w.p., 2s. 6d.

NUX VOMICA.—Shipment, 110s. cwt., c.i.f.

PEPPER.—Sarawak white, 2s. 9d., spot; 2s. 8½d., c.i.f.; black, 2s. 1d., c.i.f. Brazilian black, grade 1, 2s. 9½d., duty paid.

PIMENTO.—Shipment, 700s. cwt., f.o.b.

PODOPHYLLUM.—*Emodi*, 245s. cwt. nominal; spot and c.i.f.

QUILLAIA.—225s. cwt., spot; 210s., c.i.f.

RHUBARB.—Various grades offered at from 9s. to 25s. per lb. spot.

SEEDS.—(Per cwt.).—ANISE.—China star, 280s., c.i.f. CELERY.—Indian, 275s. nominal spot; shipment, 260s., c.i.f. CORIANDER.—Moroccan, 82s. 6d. duty paid; 63s., c.i.f. Rumanian whole, 95s., duty paid. CUMIN.—Iranian, 160s., duty paid; 135s., c.i.f. DILL.—Indian, 145s.; 115s., c.i.f. FENNEL.—Chinese, 150s., duty paid; Indian, 180s. FENUGREEK.—Moroccan, spot, 77s. 6d., duty paid; 62s., c.i.f. MUSTARD.—English, 80s. to 105s.

SENEGA.—Canadian, spot, 30s. 6d. lb.; 29s. 9d., c.i.f. Japanese, 27s. 6d., in bond.

SENNA.—(Per lb.) Tinnevely LEAVES spot; Prime No. 1, 2s. 3d.; No. 3, f.a.q., 1s. 4½d.; shipment, No. 3, 1s. 2½d., c.i.f. PODS: Tinnevely hand-picked, spot, 2s. 10d.; manufacturing, 1s. 9d. Alexandria hand-picked, 4s. 6d. to 7s. as to grade; manufacturing forward, 2s. 2d., c.i.f.; spot 2s. 4d.

SQUILL.—WHITE, 155s., cwt.; new crop, 140s., c.i.f.

STYRAX.—Spot, 21s. 6d.; 21s., c.i.f. TRAGACANTH.—No. 1, £285 cwt.; No. 2, £265 spot.

TURMERIC.—Madras finger, spot, 310s. cwt.; shipment, 280s.

VALERIAN ROOT.—Indian, 360s. cwt.; spot; 350s., c.i.f.; Continental, 460s., c.i.f., 480s., spot.

VANILLIN.—(Per lb.).—5-cwt. lots, 21s. 6d., 2-cwt. 21s. 9d.; 56-lb., 22s.; small quantities, 22s. 6d.

WAXES.—(Per cwt.) Bees', Dar-es-Salaam, 775s., c.i.f. CANDILLILA, 550s., spot; CARNAUBA, fatty grey, 335s.; 312s. 6d., c.i.f.; prime yellow, 465s.; 425s., c.i.f.

WITCH HAZEL LEAVES.—4s. 8d. lb., spot; 4s. 6d., c.i.f.

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TRADE MARKS

APPLICATIONS ADVERTISED BEFORE REGISTRATION

"Trade Marks Journal," September 11, No. 4698

NOVOFIX, B920,662, by May & Baker, Ltd., Dagenham, Essex. *Far chemical products being fixing agents far phatagraphic. and radiagraphic purposes* (1)

HARRIET HUBBARD AYER, 904,681, by Harriet Hubbard Ayer, Paris, France. *Far perfumes, non-medicated toilet preparations, and cosmetic preparations* (3)

AS YOU LIKE IT BY BRISTOWS, B906,001, by T. F. Bristow & Co., Brentford, Middlesex. *Far perfumes, nan-medicated toilet preparations, cosmetic preparations, dentifrices, depilatory preparations, taitel articles, sachets far use in waving the hair, shampoos, saaps, and essential ails* (3)

TRUGEL, B906,178, by Nicholas Products, Ltd., Slough, Bucks. *Far preparations far the hair, all in gel form* (3)

SAUNDA, B906,370, by Saunda, Inc., Chicago, Illinois, U.S.A. *Far casmetics, perfumes, nan-medicated taitel preparations and preparations far the hair* (3)

KARATE, 915,262, by Aaron Sam Gee, London, N.W.8. *Far nan-medicated taitel preparations saaps, perfumes, casmetics, preparations far the hair and dentifrices* (3)

PINTA, 917,080, by Milk Marketing Board, Thames Ditton, Surrey. *Far nan-medicated taitel preparations; casmetic preparations; saaps, perfumes, preparations far the hair, dentifrices, taitel articles; cleaning and polishing preparations* (3)

SUPRASANI, 917,782, by A/S Borregaard, Sarpsborg, Norway. *Far cleaning and polishing preparations, saaps, perfumes, perfumed non-medicated taitel preparations; cosmetics; hair laticans; dentifrices* (3)

AMAZE, B919,558, by Unilever, Ltd., Birkenhead, Ches. *Far saaps, detergents (nat far use in industrial or manufacturing praesses), cleaning, polishing, scouring, and abrasive preparations; bleaching preparations and substances far laundry use* (3)

BLAST, 919,559, by Unilever, Ltd., Port Sunlight, Ches. *Far saaps, detergents (not far use in industrial ar manufacturing praesses)* (3)

ESCAPE, 920,045, by Jane Seymour, Ltd., London, W.1. *Far perfumes, toilet preparations (nat medicated), casmetic preparations, dentifrices, depilatory preparations, preparations far dressing and setting the hair, saaps and essential ails* (3)

IMPORA, 924,278, by Southern Aerosol Co., Ltd., Hove 3, Sussex. *Far nan-medicated taitel preparations* (3)

PROTHIADEN, 907,635, by Spofa-Spojene Podniky Pro Zdravotnickou Vyrobu, Czechoslovakia, MIADON, 913,442, TOLBET, 919,598, by Novo Industri, A.S., Copenhagen N., Denmark. *Far medicinal and pharmaceutical preparations* (5)

ROCKET INSTANTAID, 910,964, by Cadulac Chemicals, Ltd., Radcliffe, Lancs. *Far medicated preparations far external use* (5)

AMIGRON, 914,073, by Societa Farmaceutici Italia, Milan. *Far medicinal preparations far human use in serataninic therapy* (5)

CODANIN, B918,135, by International Chemical Co., Ltd., London, W.C.1. *Far medicinal and pharmaceutical preparations and products* (5)

ERETON, 915,926, by Farbwerke Hoechst, A.G., Vormals Meister Lucius & Bruning, Germany. *Far pharmaceutical preparations far human and veterinary use* (5)

SOFT PETAL, 914,914, by Yardley & Co., Ltd., London, W.1. *Far deodorants* (5)

DIELDRITE, B915,532, by Shell International Petroleum Co., Ltd., London, S.E.1. *Far insecticides, larvicides, fungicides, herbicides and pesticides; preparations far killing weeds and destroying vermin; nane being far export ta and sale in Puerta Rico* (5)

GENTEROID, 916,889, by Aspro-Nicholas, Ltd., Slough, Bucks. *Far pharmaceutical preparations and substances, all far the treatment af infections of the skin, eyes, ears, nase and throat* (5)

PAMBA, 917,587, by Veb Arzneimittelwerk Dresden, Radebeul 1, Germany. *Far antifibrinolytic preparations and substances, all far internal administration* (5)

SUPRASANI, 917,783, by Borregaard, Sarpsborg, Norway. *Far sanitary substances and preparations; disinfectants; preparations far destroying vermin* (5)

Device, 920,049, by Pigot & Smith, Ltd., Wigan, Lancs. *Far pharmaceutical, antiseptic, disinfectant and deodorant substances and preparations; and pads or the like applicators impregnated with such substances ar preparations* (5)

INCIDINUM, 921,228, by Desowag-Chemie, G.m.b.H., Solingen-Ohligs, Germany. *Far disinfectants, bactericides, fungicides and insecticides* (5)

CURACRON, 923,540, by CIBA, Ltd., Basle, Switzerland. *Far chemical preparations far killing weeds and destroying vermin; insecticides* (5)

GORISONT, 922,941, by Technical & Optical Equipment (London), Ltd., London, W.2. *Far cameras* (9)

PATENTS

COMPLETE SPECIFICATIONS ACCEPTED

From the "Official Journal (Patents)," September 11.

Antibiotic armentonycin. Upjohn Co. 1,131,079.

Freeze-drying. Edwards High Vacuum International, Ltd. 1,131,082.

Methad and apparatus far treating blood. Eliott Laboratories, Inc. 1,131,117.

Halagen-substituted tetrahydroquinazoline derivatives, their preparation and campasitions containing them. Dr. Karl Thomae, G.m.b.H. 1,131,164.

Imidazole derivatives, their preparation and use. J. R. Geigy, A.G. 1,131,191.

Thiazole derivatives and their use as herbicides. Produits Chimiques Pechiney-Saint Gobain. 1,131,207.

Imidazolidine derivatives. Imperial Chemical Industries, Ltd. 1,131,216.

Cyclic imide derivatives having nematocidal and fungicidal praperties. Schering, A.G. 1,131,334.

2-Phenylbenzoxazole compounds, their preparation, and their use in cosmetic campasitions. CIBA, Ltd. 1,131,405.

Pracess far the manufacture af steraiids. F. Hoffmann-la Roche & Co., A.G. 1,131,443.

Steraiids. F. Hoffmann-la Roche & Co., A.G. 1,131,444-45.

Pracess far the preparation of acetic acid. Rhône-Poulenc, S.A. 1,131,447.

Basic derivatives af benzoxazine and methads far their production. Robapharm, A.G. 1,131,467.

5β,6β-Methanaestrances. Abbott Laboratories. 1,131,469.

British patent specifications relating to the above will be obtainable (price 4s. 6d. each) from the Patents Office, 25 Southampton Buildings, Chancery Lane, London, W.C.2, from October 23.

COMING EVENTS

Items far inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Tuesday, September 24

CHEMICAL SOCIETY, University of Keele, Keele, Staffs. Autumn meeting. Until September 26.

NORTH STAFFORDSHIRE BRANCH, PHARMACEUTICAL SOCIETY, North Staffs medical institute, Harts-hill, Stoke-on-Trent, at 7.45 p.m. Mrs. E. J. M. Leigh (a member of Council) on "Pharmacy Tomorrow."

WEST MIDDLESEX BRANCH, PHARMACEUTICAL SOCIETY, Park hotel, Greenford Avenue, London, W.7, at 8 p.m. Social evening.

Wednesday, September 25

AGRICULTURAL AND VETERINARY PHARMACY GROUP, PHARMACEUTICAL SOCIETY, Pharmaceuticals division, Imperial Chemicals Ltd., Alderley Park, Macclesfield, Ches, at 2.30 p.m. Demonstration at I.C.I. home farm on growth promotion. At 6 p.m. Dr. Spinks (deputy chairman and research director, pharmaceuticals division) on "Research in the Light of the Medicines Bill."

EDINBURGH CHEMISTS' GOLF CLUB, Liberton Golf Club, Kingston Grange, Edinburgh, 9. Play far W. S. Thomson trophy and E. C. trophy.

FIFE BRANCH, PHARMACEUTICAL SOCIETY, Ollerton hotel, Kirkcaldy, at 7.45 p.m. Speaker: Mr. A. Cowan (a member of Scottish Department Executive).

PHARMACEUTICAL GROUP, ROYAL SOCIETY OF HEALTH, 90 Buckingham Palace Road, London, S.W.1, at 6.30 p.m. Debate on "Will Health Centres Improve the Health of the Public?"

Thursday, September 26

BRISTOL BRANCH, PHARMACEUTICAL SOCIETY, Dyrham Lodge, 16 Clifton Park, Bristol 8, at 7.30 p.m. Mr. R. A. Wing on "Marketing of Ethical Products."

CARDIFF BRANCH, PHARMACEUTICAL SOCIETY, Lecture theatre, Welsh School of Pharmacy, Cathays Park, Cardiff, at 7.30 p.m. Mr. R. Shields, on "Organ Transplants."

EPSOM AND SUTTON BRANCH, NATIONAL PHARMACEUTICAL UNION, Charter inn, High Street, Epsom, at 8 p.m. Mr. H. W. Toms (director and secretary, Institute of Pharmacy Management) on "Aims and Objects of the Institute of Pharmacy Management."

PLASTICS INSTITUTE, Grand hotel, Bristol. Conference on printing and decoration of plastics. Until September 27. Fee: Members £10,

non-members £15. Details from the Institutes secretary, 11 Hobart Place, London, S.W.1.

SOUTHEND BRANCH, PHARMACEUTICAL SOCIETY, Overcliff hotel, Manor Road, Westcliff-on-Sea, at 8 p.m. Mr. L. H. T. Buller on "Home-made Wines."

WORTHING AND WEST SUSSEX BRANCH, PHARMACEUTICAL SOCIETY, General Abercrombie hotel, 4 Queen Street, Arundel, at 8 p.m. Mr. E. Jensen, on "What do you Mean by Profit?"

Friday, September 27

BIRKENHEAD BRANCH, PHARMACEUTICAL SOCIETY, Central hotel, Birkenhead, at 8 p.m. Mr. A. E. Bromley on "Medical Hypnosis."

PESTICIDES GROUP, SOCIETY OF CHEMICAL INDUSTRY, School of Pharmacy, Brunswick Square, London, W.C.1, at 9.30 a.m. Symposium on chemically induced resistance of plants to pests and diseases.

Saturday, September 28

LONDON BRANCH, GUILD OF PUBLIC PHARMACISTS. Visit to Royal Berkshire and Battle Hospitals, Reading, leaving Paddington by 2.30 p.m. train. At 7 p.m. informal dinner at Caversham Bridge hotel, Reading.

Sunday, September 29

RURAL PHARMACISTS NEWS, White Hall hotel, Bloomsbury Square, London, W.C.1, at 10.30 a.m. Meeting far rural pharmacists.

Advance Information

ACADEMY OF PHARMACEUTICAL SCIENCES, AMERICAN PHARMACEUTICAL ASSOCIATION, Statler Hilton hotel, Washington, D.C., U.S.A., November 17-20. National meeting.

Courses and Conferences

CITY OF LONDON COLLEGE, Moorgate, London, E.C.2. Series of four weekly seminars on the Trade Descriptions Act, 1968, commencing at 5.30 p.m. on October 28. Fee: £6 6s. Details from the College secretary.

Exhibitions and Fairs

TREASURES OF THE KODAK MUSEUM. Items of historical interest from the collection of Kodak, Ltd., exhibited at Kodak House, Kingsway, London, W.C.2, until October 4. Hours: 9 a.m. to 5 p.m. daily except Saturdays and Sundays. Admission free.

PRINT AND PUBLICITY



PLANNING A SAMPLING SCHEME: The October 5 issue of *Woman* magazine will be featuring a free sample sachet of Beecham's recently launched Fynnon spa bath salts. The scheme involved a conference between the paper's beauty editor, the marketing manager of the manufacturers (Beecham Products (U.K.)), their advertising agents and product manager and the paper's advertisement manager. They are here seen in session.

PRESS ADVERTISING

CUTICURA LABORATORIES, LTD., Clivemont Road, Cordwallis Trading Estate, Maidenhead, Berks. Cuticura soap, hand cream, and talcum. In *Honey*, *Woman*, *Woman's Own*, *Living*, *Nineteen*, *True Story*, *True Romances* and *Woman's Story*.

PUBLICATIONS

Catalogues and Lists

RALPH N. EMANUEL, LTD., 264 Water Road, Alpertown, Middlesex: list of new organic research compounds (pp. 28).

SANDOZ PRODUCTS, LTD., Sandoz House, 23 Great Castle Street, London, WIN 8AE: Medical products trade pack price list, 1968-69.



COUNTER "DISPENSER" UNIT: Designed to carry the Pond's creams range, the unit illustrated lays special emphasis on new Pond's dry skin lotion. Makers are Chesebrough-Pond's, Ltd., Victoria Road, London, N.W.10.

Prescribers Press

What doctors are reading about developments in drugs and treatments

ASPIRIN is more likely to cause significant gastric mucosal haemorrhage when subclinical scurvy is present. That has been shown in experiments in guinea-pigs by workers at the Western Infirmary, Glasgow. Their investigation was started in order to test the hypothesis, put forward in a separate paper, that subclinical scurvy might be a factor in maintaining haemorrhage precipitated by aspirin. The guinea-pig tests involved an examination of the gastric mucosa of sacrificed animals after two weeks' feeding on a normal or scorbutogenic diet, with or without 900 mgm. daily of aspirin (as soluble aspirin). The animals on a scorbutogenic diet bled significantly more than those on a normal diet, and the addition of aspirin to the scorbutogenic diet significantly increased the likelihood of bleeding. Clinical basis for the hypothesis already mentioned had been the finding that leucocyte/ascorbic-acid levels were lower in patients with gastrointestinal haemorrhage than in a peptic-ulcer control group, in whom the level was in turn lower than in a healthy control group. It did not appear, however, that aspirin itself lowered leucocyte/ascorbic-acid levels. The authors consider that a poor dietary intake of the vitamin, rather than malabsorption or increased utilisation, is the cause of the low levels found in the patients examined (*Lancet*, September 14, pp. 603 and 606).

EFFECTIVENESS of several antibiotic regimens in the treatment of exacerbations of chronic bronchitis has been studied by two groups. In a report to the research committee of the British Tuberculosis Association, workers in London, North Shields and Newcastle upon Tyne state their finding that the following regimens were equally effective in rendering sputum mucoid in over 70 per cent. of patients during seven days' therapy:—Cephaloridine 2 gm. or 4 gm. daily; benzylpenicillin 2 million units with streptomycin 1 gm. daily. Though the latter treatment is cheaper, cephaloridine may, it is suggested, be more suitable for those patients who are specially liable to develop ototoxicity if given streptomycin. In the other study workers in Edinburgh found equal effect from ampicillin, 1 gm. daily;

tetracycline hydrochloride, 1 gm. daily; and methacycline hydrochloride, 600 mgm. or 1 gm. daily. Efficacy and economy, they say, may be combined by prescribing the least expensive tetracycline derivative (at present oxytetracycline) so soon as the initial symptoms of an infective exacerbation of chronic bronchitis are recognised (*Lancet*, September 14, pp. 592 and 594).

CONTEMPORARY THEMES

Subjects of contributions in current medical and technical publications

ATTENUATED CANINE DISTEMPER VACCINE derived from chick embryo tissue culture. Stability of. *Vet. Rec.*, September 14, p. 265.

ALCOTEST R80 REAGENT TUBES. Evaluation of. *Nature*, September 7, p. 1051.

2-CHLOROETHANE-PHOSPHONIC ACID. Regulation of growth and fruit maturation with. *Nature*, September 7, p. 1064.

LSD-25. Meiotic chromosome damage induced by. *Nature*, September 7, p. 1072.

INTERFERON'S HORIZONS BROADEN. *New Scientist*, September 12, p. 539.

RHEUMATIC DISORDERS. Control of pain in the. *Brit. med. J.*, September 14, p. 635.

LONG-ACTING SYNTHETIC CORTICOTROPHIN. Assessment of, in hypersensitive asthmatics and normal subjects. *Brit. med. J.*, September 14, p. 653.

CEPHALORIDINE compared with penicillin and streptomycin in exacerbations of chronic mucopurulent bronchitis. *Lancet*, September 14, p. 592.

AMPICILLIN, TETRACYCLINE HYDROCHLORIDE AND METHACYCLINE HYDROCHLORIDE. A comparative study of, in acute exacerbations of chronic bronchitis. *Lancet*, September 14, p. 594.

ASPIRIN. Effect of, on the gastric mucosa of guinea-pigs on a scorbutogenic diet. *Lancet*, September 14, p. 606.

RUBELLA VACCINES from duck-embryo cultures. *J. Amer. med. Ass.*, August 19, p. 554.

DUCK-EMBRYO RABIES VACCINE. Reactions to. *J. Amer. med. Ass.*, August 19, p. 559.

5-n-BUTYL-2-DEMETHYLAMINO-4-HYDROXY-6-METHYLPYRIMIDINE: a systemic fungicide. *Nature*, September 14, p. 1160.

TOBACCO SMOKE. Carcinogenicity of condensate to mouse skin. *Nature*, September 14, p. 1183.

DRUG ALLERGY. *Proc. roy. Soc. Med.*, September 9, p. 891.

TOXIC MATERIALS. The early detection of absorption of. *Proc. roy. Soc. Med.*, September 9, p. 911.

NEW COMPANIES

P.C.=Private Company. R.O.=Registered Office.

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COMMERCIAL TELEVISION

The information given in the table is of number of appearances and total screen time in seconds. Thus 7/105 means that the advertiser's announcement will, during the week covered, be screened seven times and for a total of 105 seconds.

Period—September 29 to October 5

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Paton's nail hardener ...	—	—	3/45	—	—	—	—	—	—	—	—	—	—	—	—
Simply Super ...	3/90	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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